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July 8, 2024

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: Pennsylvania Public Utility Commission
v.
FirstEnergy Electric Company
Docket No. R-2024-3047068

Dear Secretary Chiavetta:

Enclosed please find the Office of Consumer Advocate's Errata in this matter. The Errata corrects typographical errors in the Direct Testimony of David J. Garrett, OCA Statement 3, filed on June 25, 2024. The Errata deletes the language in Mr. Garrett's Direct Testimony at page 13, lines 4-13.

Copies have been emailed to the parties listed on the enclosed Certificate of Service.

Respectfully submitted,

/s/ Emily A. Farren
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Enclosures
cc: Administrative Law Judge Katrina L. Dunderdale (**email only**)
Administrative Law Judge Emily DeVoe (**email only**)
Certificate of Service

CERTIFICATE OF SERVICE

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3047068
	:	
FirstEnergy Pennsylvania Electric Company	:	

I hereby certify that I have this day filed electronically on the Commission's electronic filing system and served a true copy of the following document, the Office of Consumer Advocate's Errata, upon parties of record in this proceeding in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant), in the manner and upon the persons listed below.

Dated this 8th day of July 2024.

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Dated: July 8, 2024

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R-2024-3047068
	:	
FirstEnergy Electric Company	:	

OFFICE OF CONSUMER ADVOCATE'S ERRATA

The Office of Consumer Advocate (OCA) respectfully submits the following errata to the Direct Testimony of David J. Garrett, OCA Statement 3, in the above-captioned proceeding:

Reference	Reads:	Should Read:
OCA Statement 3, page 13, lines 4-13.	Q. Please summarize your recommendation regarding the depreciation system that should be used to calculate the Company's depreciation rates. A. As demonstrated above, the ALG procedure results in a fairer application of depreciation rates compared to the ELG procedure given the realities of ratemaking proceedings. Mr. Spanos's decision to switch to the ELG procedure in this case unnecessarily increases the annual depreciation accrual charged to customers by approximately $1.6 million. In other words, even if no other adjustments are made to the depreciation study except the adoption of the majority view ALG procedure, it would result in a decrease of $1.6 million to the Company's proposed annual depreciation accrual. The Commission should adopt my proposed depreciation rates, which were calculated using the ALG procedure.	Delete lines 4-13 on page 13 of Statement 3.

WHEREFORE, the Office of Consumer Advocate respectfully requests that the Commission, the Presiding Officers and the parties to this proceeding note the above errata to the Direct Testimony of David Garrett, OCA Statement 3.

Respectfully Submitted,

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Dated: July 8, 2024

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Company	**)**	

DIRECT TESTIMONY OF

DANTE MUGRACE

ON BEHALF OF THE

COMMONWEALTH OF PENNSYLVANIA

OFFICE OF CONSUMER ADVOCATE

June 25, 2024

PUBLIC VERSION

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I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dante Mugrace. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. WHAT IS YOUR PRESENT OCCUPATION?

A. I am a Senior Consultant with the Economic and Management Consulting Firm of PCMG and Associates, LLC. (PCMG). In my capacity as a Senior Consultant, I am responsible for evaluating and examining rate and rate related proceedings before various governmental entities, preparing expert testimony recommending revenue requirement, as well as, offering opinions on economic policy and policy issues and methodologies used to set a value on a utility's rate base and cost of service components of revenue requirement.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE.

A. PCMG is an association of experts in utility regulation and policy, economics, accounting and finance. PCMG's members have over 75 years collective experience providing assistance to counsel and expert testimony regarding the regulation of electric, gas, water and wastewater utilities that operate under local, state and federal jurisdictions. PCMG focuses on areas regarding revenue requirement, cost of service, rate design, cost of capital and rate of return. Prior to my association with PCMG, I was employed as a Senior Consultant with the consulting firm of Snavely King Majoros and Associates (SKM) from 2013 to 2015, in the same capacity as PCMG. Prior to SKM I was employed by the New Jersey Board of Public Utilities (NJBPU) from 1983 to my retirement in 2011. During my tenure at the NJBPU, I held various Accounting, Rate Analyst, Supervisory and Management Positions. My last position was Bureau Chief of Rates in the Agency's Water Division (Bureau Chief of Rates). I held this position for nearly 10 years. My resume is attached as Appendix A.

Q. WHAT EXPERIENCE DO YOU HAVE IN THE AREA OF UTILITY RATE SETTING PROCEEDINGS AND OTHER UTILITY MATTERS?

A. In my capacity as Bureau Chief of Rates at NJBPU, I was responsible for overseeing the rate process regarding administrative, financial, and managerial functions of the Rates Bureau. My primary duties were to ensure that the jurisdictional utilities had sufficient revenues to cover their operating expenses, the ability to earn a reasonable rate of return on plant investments, and to ensure that the provision of safe, adequate and proper service at reasonable rates was met. During my time at the NJBPU, I was involved in hundreds of rate and rate related proceedings. In my capacity as a Senior Consultant previously with SKM and now with PCMG, I have been and am currently involved in rate and rate related proceedings before the Commissions in the Commonwealth of Massachusetts and Pennsylvania, and the States of Maine, Maryland, New Jersey, New York, North Dakota, and Ohio. I was involved in the Generic Proceedings to Establish Parameters for the Next Generation Performance Based Rate Plans before the Alberta Utilities Commission. I was involved in transmission formula rate plans before the Federal Energy Regulatory Commission (FERC) regarding the PECO Energy Company on behalf of the Pennsylvania OCA and the Rockland Electric Company on behalf of the NJ Division of Rate Counsel.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I hold a Master of Business Administration (MBA) degree with a concentration in Strategic Management from Pace University-Lubin School of Business in New York, New York. I hold a Master of Public Administration (MPA) degree from Kean University in Union, New Jersey. I hold a Bachelor of Science (BS) degree in Accounting from Saint Peter's University in Jersey City, New Jersey.

II. PURPOSE OF TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate (OCA).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to calculate and to make a recommendation regarding the FirstEnergy Pennsylvania Electric Company's (FirstEnergy or Company) base rate case proceeding. My recommendation includes the setting of the Company's Rate Base Valuation, and Pro Forma Operating Income at Present Rates for the Fully Projected Future Test Year Period Ending December 31, 2025. On April 2, 2024, FirstEnergy filed a base rate case with the Pennsylvania Public Utility Commission (PAPUC or Commission) requesting an overall increase in rates for its electric distribution service of approximately $502 million or 33.60% above current operating revenue. The revenue requirement increase is predicated across all of FirstEnergy's rate districts (Met-Ed, Penelec, Penn Power and West Penn).[1] Included in my recommended position on Rate Base Valuation and Operating Income, I am also incorporating the recommendations of OCA witness Dr. Marlon Griffing with respect to the overall rate of return, OCA witness Dr. Karl Pavlovic on any rate design adjustments, Mr. David Garrett on depreciation adjustments, Ms. Barbara Alexander on the credit card payment proposal and the Company's proposed EV program, and OCA witness Mr. Roger Colton on Low Income Outreach and the Company's adjustments to its Uncollectible Accounts related to the Chapter 14 collection and rule changes and any Universal Service adjustments.

[1] On January 1, 2024, Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company (the Predecessor Companies) merged into FE PA Pursuant to the Commission Order in Docket Nos. A-2023-3038771, et al (PA Consolidation). As a result of the PA Consolidation, FE PA consists of Met-Ed, Penelec, Penn Power, West Penn and Pennsylvania State University rate districts (individually a "Rate District" and in any combination the "Rate Districts"). FE PA is not proposing to consolidate and/or unify the base rates of any Rate Districts as part of this filing.

III. REVENUE REQUIREMENT ISSUES

A. SUMMARY

Q. WHAT REVENUE DEFICIENCIES OR ADJUSTMENTS ARE YOU RECOMMENDING?

A. Based upon the use of the Company's proposed fully projected future test year ending December 31, 2025, I have the following recommendations:

- My recommended Rate Base balance is $6,901,224,103 which is $264,573,897 lower than the Company's proposed Rate Base balance of $7,165,798,000.
- My overall Rate of Return, based upon OCA witness Griffing's recommendation, is 6.97%, which includes a Common Equity component of 9.38%.
- My recommended Operating Revenue at Present Rates is computed at $1,569,644,000, which is the same as the Company's Present Rate Revenue of $1,569,644,000.[2]
- My recommended total Operating Expenses are $548,432,181, which is $160,489,819 lower than the Company's proposed Operating Expenses of $708,922,000.
- My recommended Federal Income Tax is $56,667,761, which is $34,071,239 lower than the Company's proposed Federal Income Taxes of $90,739,000.
- My recommended State Income Tax is $21,956,086, which is $14,088,914 lower than the Company's Proposed State Income Tax of $36,045,000.
- Overall, I recommend a revenue requirement increase of $16,910,605, which is $485,579,395 lower than the Company's proposed revenue requirement increase of $502,400,000 , of which the breakdown for each rate district is as follows:
    - Met-Ed - $4,912,082
    - Penelec - $4,461,291
    - Penn Power - $1,838,059
    - West Penn - $5,699,172

[2] Any differences between Company Operating Revenues at Present Rates in its filing and my Schedules are due to rounding.

My revenue requirement adjustments are reflected in my Exhibits DM-1 through DM-23. My revenue requirement recommendations have been developed based upon the total FirstEnergy electric utility operations encompassing the four electric utility companies.

Q. WHAT RATE BASE COMPONENTS ARE YOU ACCEPTING IN THIS PROCEEDING?

A. I am accepting the Company's balances related to Customer Deposits of ($105,182,000), Customer Advances for Construction of ($557,000) and Materials and Supplies of $72,094,000, which are shown on my Exhibit DM-3.

B. RATE BASE (Measures of Value)

1. Electric Plant in Service (EPIS)

Q. WHAT HAS THE COMPANY PROPOSED REGARDING ITS ELECTRIC PLANT IN SERVICE?

A. The Company has proposed an EPIS balance of $12,550,839,000[3] for the fully projected future test year for the twelve months ending December 31, 2025. (Company Exhibit PML-1 page 4, 6 and 7 of 63). This balance represents the total PA electrical plant investments to the Pennsylvania operations. Included in that balance are adjustments related to asset retirements of $1,345,000, the elimination of plant for the Penelec's Rate District New York jurisdiction of $24,731,000, plant associated with West Penn Rate District acquisition of Letterkenny Industrial Development Authority (LIDA) plant additions of $17,196,000 and plant associated with two-year cycle of inspection and maintenance of $12,008,000 (Statement No. 3 at 9).

Q. HOW DID THE COMPANY DEVELOP ITS CAPITAL INVESTMENT TO PRODUCE THE TOTAL PROPOSED PLANT ADDITIONS AS OF DECEMBER 31, 2025?

A. Company witness Mr. Wade Smith stated that the Company follows a rigorous standardized FirstEnergy capital budgeting process each year, with significant technical

[3] Differences between the Company's balance and my balance are due to rounding.

review and input from FirstEnergy utility experts regarding the most appropriate use of capital. (Statement No. 2 at 13). The annual capital prioritization process includes an initial target investment level based upon historical level of investment and commitments. The Company classified, prioritized and sub-prioritized capital projects with mandatory projects given the highest priority, followed by reliability, condition, and value-added projects. (Statement No. 2 at 13). Mr. Smith stated that between 2016 and 2019, the Company invested $343 million in capital improvements through its Long-Term Infrastructure Improvement Plans (LTIIP) which allowed the Company to accelerate projects to replace obsolete or aging infrastructure, accelerate line rehabilitation work, and accelerate the modernization and automation of its distribution system to enhance system resilience and reliability. (Statement No. 2 at 10). The projects included in the LTIIP 1 covered a broad spectrum of distribution-related equipment and facilities, with major focus being line rehabilitation. Mr. Smith stated that the Company received approval for its LTIIP II program which began in 2020 and will be completed by the end of 2024. The LTIIP II projects were designed to maintain and improve reliability of the distribution system and to minimize customer impact due to outages. (Statement No. 2 at 11). The projects will focus on deploying electronic devices, increasing capacity, and implementing additional sectionalizing devices, which will assist in detecting outages and can be utilized by system operators. (Statement No. 2 at 11). The Company invested $549 million in LTIIP projects between 2020 and 2023 and plans to invest an addition $137 million in 2024 through the completion of the LTIIP II. (Statement No. 2 at 11).

Q. WHAT TYPES OF PLANT INVESTMENTS ARE INCLUDED IN THE COMPANY'S FTY AND FPFTY PLANT ADDITIONS?

A. The Company stated that it continues to invest in the distribution system through its baseline capital projects outside its LTIIP. These capital additions fall into several major categories. These are (1) Reliability capital expenditures; (2) Condition-based expenditures; (3) Storm-related capital repairs and forced line and substation work; (4) New Capacity and (5) New business-related capital expenditures. (Statement No. 2 at 11-12).

Q. WHAT ARE THE LEVELS OF CAPITAL ADDITIONS THE COMPANY HAS PROPOSED TO INCLUDE IN THIS PROCEEDING?

A. The Company has proposed to add $604,179,000 of plant additions in the FTY 2024 period, and an additional $706,403,000 of plant additions in the FPFTY 2025 period. These balances are shown on Company FE PA Exhibit PML-1 page 6 of 63 for FTY ending December 31, 2024 and Company FE PA Exhibit PML-1 page 6 of 63 for the FPFTY ending December 31, 2025.

Q. HAS THE COMPANY APPLIED FOR DOLLARS FROM THE IIJA FUNDING PROGRAM OR THE BROADBAND EQUITY ACCESS AND DEVELOPMENT PROGRAM (BEAD)?

A. In response to OCA Set-XIV-6 the Company did apply for IIJA funding, but the proposal did not include pole replacements as an initiative. The projects included in the IIJA applications were chosen to focus on the deployment of new technologies and modernizing the system while improving reliability. Pole replacements did not align with the types of system modernizations the Company proposed in its IIJA application. With respect to the BEAD, which is available to internet service providers for broadband expansion but was not available to electric utilities for utility pole replacement.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED EPIS BALANCE IN THE FPFTY PERIOD?

A. I do not have any adjustments to the Company's EPIS balance in the FPFTY period except that I note an adjustment to the Company's proposed amortization of increased Inspection and Maintenance Program, below.

Q. DOES THE COMPANY CAPITALIZE ANY VEGETATION MANAGEMENT COSTS?

A. According to the Company and as of June 16, 2021, FirstEnergy changed its accounting practice, and all standard maintenance are now accounted for as O&M. (OCA Set-VI-10). There are no capitalized costs related to vegetation management in the Company's EPIS balance.

Q. HOW DOES THE COMPANY APPROACH ITS VEGETATION MANAGEMENT AND TREE TRIMMING PROGRAM?

A. As stated in response to OCA-Set-IV-10, the Company performs vegetation management to obtain clearance along the distribution clearing zone for the entire cycle. The distribution clearing zone is a corridor measured at fifteen feet on either side of the pole line or to the established large tree edge. Vertically, the corridor is measured to fifteen feet above the highest conductor attached to the pole or structure. Each tree is evaluated based on species and growth rates to determine the necessary clearance to be obtained for the cycle. With respect to safety and reliability issues, the Company utilized the imminent threat procedure when any safety or reliability issues requiring immediate response are identified. Vegetation management issues are identified that present imminent threat to the Company's electric facilities.

Q. WHAT IS YOUR RECOMMENDATION?

A. My recommendation with respect to the Company's proposed vegetation management costs are outlined in my Distribution Expense section of my testimony.

Q. DO YOU HAVE ANY OTHER CONCERNS REGARDING THE COMPANY'S PROJECTED TIMELINES OF THE COMPANY'S PLANT ADDITIONS?

A. No, I do not.

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS INSPECTION AND MAINTENANCE (I&M) PROGRAMS?

A. As stated in Company Statement No. 2, page 15, Company witness Mr. Smith stated that recently filed changes to increase the frequency of certain I&M programs are expected to result in increased capital expenditures. Beginning in 2025, the Company will transition its distribution overhead circuit and overhead transformer inspection and maintenance cycle from five-years to two-years inspection cycle. The change in frequency is expected to result in an increased number of conditions or facilities identified for near-term repair or replacement, resulting in capital expenditures in 2025 of $12 million in the first years' of the cycle and capital expenditures of $29.5 million in 2026. In response to OCA-Set-IV-14, the Company stated that the purpose of the I&M program is to identify and repair unsafe conditions or conditions that may adversely affect service reliability or system

performance, and to comply with the state regulatory agencies and the National Electrical Safety Code. In response to OCA-Set - IV -12 the Company stated that 52 Pa. Code § 57.198 (n) (4) requires "Distribution lines shall be inspected by ground patrol a minimum of once every 1-2 years" and 52 Pa. Code § 57.198 (n) (6) requires "Overhead distribution transformers shall be visually inspected as part of the distribution line inspection every 1-2 years." The Predecessor Companies were granted a waiver by the Commission in 2009 to continue with the then current program, which included five-year inspection cycles for overhead circuits and overhead transformers. On December 28, 2023, the Commission's Bureau of Technical Utility Services (TUS) revoked that waiver and required the Company to implement a one-year to two-year inspection cycle length for distribution overhead circuits and distribution overhead transformers.

Q. WHAT ARE YOUR ADJUSTMENTS TO THE COMPANY'S PROPOSED I&M PROGRAMS?

A. As stated by the Company in response to OCA-IV-13, the Company identified that the capital costs for this program are $12.008 million annually (2025[4]). The Company also stated that the second two-year cycle (2026) is $29.603 million for a total cost of $41.6 million. Given that the second two-year cycle representing $29.603 million will occur in 2026, this is beyond the test year period ending December 31, 2025, and thus should not be included in rates. I am recommending that these costs be amortized over a longer period. Given that my recommended rate case expense amortization period is 5.3 years, I am recommending the same for the Company's I&M Programs. This reduces the Company's annual inclusion to $2,265,660 per year. The Company can in a future base rate proceeding request recovery of any additional I&M costs required for the maintenance of its overhead lines and transformers.

Q. WHAT IS YOUR TOTAL ADJUSTMENT TO THE COMPANY'S EPIS BALANCE?

A. My total adjustment is a reduction of $9,742,340 and a balance of $12,541,097,660. This is shown on my Exhibit DM-5.

[4] Differences due to rounding

2. Accumulated Depreciation

Q. WHAT HAS THE COMPANY CALCULATED WITH RESPECT TO ITS ACCUMULATED DEPRECIATION?

A. The Company computed accumulated depreciation in the amount of $3,929,214,000 as shown on Company Exhibit PML-1 (page 4, 12 and 13). This high-level summary adjustment to the budgeted depreciation reserve eliminates or includes those portions attributable to the plant adjustments included in Company Exhibit PML-1 Adjustment RB-1 with supporting schedules 1 through 1D which shows the detailed adjustments to depreciation reserve for FirstEnergy and each Rate District by FERC plant account. (Ms. Patricia Larkin testimony (Statement No. 3 at 9). The Company included adjustments to the Accumulated Depreciation by eliminating the Asset Retirement Costs of $944,000; the elimination of the Penelec NY Jurisdiction balance of $7,632,000; the inclusion of the West Penn-Acquisition of LIDA of $10,781,000 and the reserve of the 2-year cycle of the Company's Inspection and Maintenance Programs.

Q. WHAT IS YOUR RECOMMENDATION?

A. I am relying on the recommendation of OCA Witness Mr. David Garrett with respect to the Company's calculation in the development of the Accumulated Depreciation balance, which is derived from Mr. Garrett's recommended depreciation expense adjustments. My adjustment is related to my recommended removal of certain expenditures and other unamortized additions as I identified in my EPIS section of my testimony. As I adjusted certain expenditures with respect to the Company's I&M program, I am making the associated adjustment to the Accumulated Depreciation balance. The Company provided a breakdown of its depreciation rates as shown on Company Exhibit PML-1 page 51. My recommendation is shown on my Exhibit DM-6 which reflects my adjustment to the Company's I&M Program of $99,792 and a balance of $23,208. With respect to Mr. Garrett, he has recommended an adjustment to the Company's Depreciation Expense based on his assessment that the Company should maintain its current Depreciation Method which carries over to the Accumulated Depreciation expense, resulting in an adjustment of ($62,573,657). This is shown on my Exhibit DM-6. My Adjusted Accumulated

Depreciation, inclusive of Mr. Garret's Recommendation, is $3,886,541,551 which is $62,673,449 less than the Company's.

3. Working Capital

Q. WHAT DID THE COMPANY PROPOSE RELATED TO ITS CASH WORKING CAPITAL (CWC)?

A. The Company has proposed a CWC balance of $201,495,000 as shown on Company Exhibit PML-1 page 19 of 63.

Q. DO YOU HAVE ANY ADJUSTMENTS OR CHANGES IN THE METHODOLOGY USED BY THE COMPANY TO CALCULATE ITS CWC?

A. No. I am accepting the Company's CWC methodology. My adjustments relate to my adjustments with respect to O&M Expenses, and other adjustments used to develop the CWC balance.

Q. WHAT ARE YOUR ADJUSTMENTS WITH RESPECT TO THE COMPANY'S CWC BALANCE?

A. I adjusted the Company's Cash Working Capital to incorporate my adjustments to my recommended O&M Expenses which flow through to the Cash Working Capital document. My recommended balance is $188,994,000[5] and is shown on my Schedule DM-7.

4. Unamortized Deferrals and Verizon Complaint Balance

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO UNAMORTIZED DEFERRALS AND VERIZON COMPLAINT BALANCES?

A. As shown on Company Exhibit FE PA PML-1 page 20, the Company proposed a total balance related to unamortized deferral and Verizon Complaint of $233,198,000. The Company provided a breakdown as follows:

(BEGIN CONFIDENTIAL)

[redacted] [redacted]

[5] Differences due to rounding.

[redacted]		[redacted]
[redacted]		[redacted]
[redacted]		[redacted]
[redacted]		[redacted]
(END CONFIDENTIAL)		
Total		**$233,198,000**

Q. WHAT DID THE COMPANY STATE REGARDING EACH OF THESE PROPOSED DEFERRALS TO BE INCLUDED IN RATE BASE?

Storm Reserve Balance and Extraordinary Storm Damages

A. According to Ms. Larkin, the Company includes the (1) adjustment to its Storm Reserve balance which have been maintained in accordance with the terms and conditions of the Rate Districts' 2016 Settlement as of December 31, the HTY; (2) an addition to rate base for certain extraordinary storm damage costs, the recognition of which have been deferred in accordance with Commission Orders as of December 31, of the HTY; (3) and an addition to rate base to include the budgeted FTY storm reserve activity. (Statement No. 3 at 11). These compute to a balance of $195,684,000. The Company is proposing to recover these storm costs over a three-year period. The Company made assumptions with respect to the storm reserve extraordinary storm deferral balance as to the Penn Power Rate District with respect to Commission review of an extraordinary storm deferral petition at Docket No. P-2023-3044479 for the April 2023 Storm. The Company has assumed the petition was approved, and removed the costs from the storm reserve, and included them in the extraordinary storm deferral. (Statement No. 3 at 11-12). The Company stated that this assumption does not change the amount of storm costs included in rate base but reduces the historical storm costs to determine the normalized storm expense included in the revenue requirement calculations shown on Adjustment IS-5, Supporting Schedule 1 of FE PA Exhibit No. PML-1 pages 40 and 41. The Company has included a 2024 Storm Reserve Activity balance of $18,944,000 for forecasted storm activity in its total Storm Reserve

balance of $208,432,000 shown on Company FE PA Exhibit PML-1 page 20 of 63. (Adjustment RB-5 Unamortized Deferral and Verizon Complaint Balances).

Q. WHAT HAS THE COMPANY STATED REGARDING THE DEVELOPMENT OF THESE STORM COSTS?

A. Company witness Ms. Larkin stated that the regulatory treatment of ongoing storm damage costs through the storm reserve accounts were established effective May 3, 2015, in accordance with the terms and conditions of the Rate Districts' Joint Petition for Partial Settlement of Rate Investigation in Docket No. R-2014-2428745, et al. The storm recovery amounts in base rates are based on a five-year average of historical storm damage expenses, excluding those expenses related to extraordinary storm events which has been deferred in accordance with Commission orders. (Statement No. 3 at 24). The storm reserve accounts were maintained in the Rate Districts' 2016 Settlement at the same level of recovery established in the prior base rate proceeding. (Statement No. 3 at 24). The Company's five-year historical O&M storm costs, excluding costs associated with extraordinary storm events approved by the Commission for deferral is shown on Company FE PA Exhibit PML-1 Adjustment IS-5 Supporting Schedule 1 (page 41 of 63) in the amount of $264,012,000.

Q. HOW DOES THE COMPANY DEVELOP ITS STORM RESERVE?

A. According to Ms. Larkin, on a monthly basis, the Company records the storm reserve recovery amounts in base rates, established as described previously, to the storm reserve. The actual monthly storm expenses incurred by the Company are recorded to the storm reserve, eliminating the impacts of such storm expenses on the Company's income statement. Both revenues received and costs incurred by the Company for assisting other affiliated and non-affiliated regulated utilities during storm events are reflected in the reserve account. Storm costs associated with extraordinary storm events approved by the Commission for deferral are transferred from the storm reserve accounts to an extraordinary storm deferral. (Statement No. 3 at 24). In response to I&E RE-12, the Company stated that the Joint Petition for Partial Settlement of Rate Investigation at Docket Nos. R-2014-2428745, et al. provided that the Predecessor Companies will establish and maintain a Storm Reserve account on the Company's balance sheet. Expenses related to

damage from extraordinary storm events will be accounted for separately in accordance with the current practices of petitioning the Commission for approval to defer such expenses. The Predecessor Companies did not seek to modify the amounts recovered in the storm reserve account in their 2016 base rate cases as the storm reserve accounts were in place for less than one year and appeared to be working as the parties intended in the Joint Petition. In response to I&E RE-13, the Company stated that this is the Rate Districts' first available opportunity since then to seek recovery for the Rate Districts' storm damage related expenses. FE PA is requesting recovery of such in this instant case. The ratemaking treatment of the unamortized storm reserve account balances is to be addressed in this case, consistent with the Commission's past deferral Orders. FE PA is requesting the authority for rate base treatment of unamortized storm reserve accounts in this instant case as the Company claims it is necessary to earn a return on prior storm expense actually paid for by FE PA.

Q. WHAT IS YOUR RECOMMENDATION?

A. I am recommending disallowance of these Storm Costs balances in rate base in the amount of $208,432,000 as shown on my Exhibit DM-10. These Storm Costs should solely be accounted for as expenses and amortized over an appropriate period of time, in this case, over the same time period as my recommended rate case expense amortization of 5.3 years which I will discuss later on in my testimony. I am also recommending that the Company's Storm Reserve balance be adjusted based upon the results of the Company's SAIFI benchmark metrics as shown on page 22 Table 9 of OCA witness Mr. Rao Konidena's testimony. Mr. Konidena calculated that for the Company's four rate districts SAIFI numbers are 21.3% below the three-year benchmarks. Accordingly, based on these poor reliability numbers, and Mr. Konidena's testimony, I am disallowing 21.3% of the Company's Storm Reserve balance to be recovered as an expense. Finally, I am recommending that the Company's 2024 Storm Reserve activity balance of $18,944,000 be disallowed in recovery as these costs are not known and measurable and do not represent actual costs that were incurred due to storm damages.

Q. WHAT IS THE BASIS FOR YOUR 21.3% ADJUSTMENT?

A. Mr. Konidena has calculated that as a whole, the four Rate Districts SAIFI score is 21.3% below the three-year benchmark. Mr. Konidena also testified as to FirstEnergy's overall continued outage issues from "priority trees" and overhanging vegetation, and the apparent lack of any new or innovative plans to deal with priority trees and an admitted lack of attention to trimming overhanging vegetation. These vegetation management issues would necessarily lead to greater storm damage expenses, as Mr. Konidena found. Accordingly, I am using the 21.3% SAIFI deficiency as an acceptable proxy basis to adjust the Company's claimed Storm Reserve balance.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT TO THE COMPANY'S STORM COST BALANCE?

A. My recommended adjustment is as follows:

Company Storm Reserve Balance 2023	$189,488,000
SAIFI Benchmark Metric – Composite 3-yr. avg.	21.30%
Disallowance	($40,360,944)
Adjusted Balance	$149,127,056
Five-Year amortization[6]	$28,137,180

This adjustment is reflected in my Amortization Exhibit DM-20.

Q. WHAT HAS THE COMMISSION STATED WITH RESPECT TO THE ACCOUNTING OF THE COMPANY'S STORM RESERVE?

A. The Commission stated that "the Company will continue to maintain its Storm Reserve Account on the Company's balance sheet which began on May 3, 2015, per the settlement approved by the Commission at Docket No. R-2014-24228745 on April 9, 2015." (page 26). In that Order, the Company's total revenue requirement included a level of recovery for purposes of funding the Storm Reserve balance which represented a five-year average of historical expenses related to storm damages of $13 million (Met-Ed), $7 million

[6] 5.3 amortization period based upon 5.3 years to rate case expenses.

(Penelec), $1 million (Penn Power), and $9 million(West Penn), for a total balance of $30 million to be recovered for purposes of funding this reserve. In the Company's next base rate case proceeding, the parties would review the storm reserve account and determine whether that amount would require adjustments (increase or decrease).

Q. PLEASE EXPLAIN YOUR RECOMMENDATION WITH RESPECT TO EXCLUDING THESE STORM COSTS FROM RATE BASE?

A. With respect to the Company's proposal to include the cumulative amount of its Storm Costs of $208,432,000 in rate base, I am recommending disallowance because these Storm Costs are considered operating expenses and not capital investments. The Company should not be earning a return on these operating costs, akin to a cash working capital allowance, as they are considered an expense and not an investment in capital and also recovering these costs through an amortization expense. This would result in the Company recovering more storm costs than actually incurred. The Company should only be authorized to recover actual and known operating expenses associated with its repairs of the storm-related damages. I do not see where the Commission allowed recovery of Storm costs in the Company's 2016 rate proceeding[7] to be included in rate base for recovery in addition to recovery of these costs through operating expenses.

Q. PLEASE EXPLAIN YOUR DISALLOWANCE OF THE COMPANY'S 2024 STORM RESERVE ACTIVITY?

A. I am recommending disallowance of the Company's proposed 2024 Storm reserve activity of $18,944,000 because these are not actually incurred storm costs, but rather forecasted costs based upon historical averages for outyear planning purposes (OCA Set -XII-7). I do not believe the Company should recover forecasted costs for storm damages in which the Company has not incurred such costs. From what I understand, the Company is permitted to seek recovery of actually incurred storm damage costs and not to forecast expected or projected storm damages costs that have not occurred. The Company's projected 2024 storm costs of $18,944,000 is speculative and uncertain and should not be included in the Company's Storm Reserve balance.

[7] Recommended Decision Docket No. R-2016-2537352 et al, page 26

Q. WHAT HAS THE COMPANY STATED REGARDING EXTRAORDINARY STORM DAMAGE?

A. According to the response to OCA-Set-IV-20, they stated that extraordinary storm costs are defined in accordance with the Federal Energy Regulatory Commission (FERC) General Instructions 7 of the Uniform System of Accounts (USofA) Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act (FPA). General Instruction 7 states that utilities may treat items as extraordinary when the effects of events and transactions that have occurred are of an "unusual in nature and infrequent in occurrence" and are "events and transactions of significant effect which are abnormal and significantly different from the ordinary and typical activities of the company, and which would not reasonably be expected to recur in the foreseeable future." The General Instruction 7 goes on to note that generally, an item should result in expenses totaling more than 5% of income to be treated as an "extraordinary item."

Q. HAS THE COMPANY PROVIDED INFORMATION SUPPORTING ITS EXTRAORDINARY STORM COSTS BALANCE?

A. In response to OCA Set -IV-18, the Company provided information related to the total extraordinary storm costs of $85,094,000, by providing the docket numbers and amounts related to each Rate Districts' extraordinary storm costs.

Q. WHAT ADJUSTMENTS DO YOU HAVE RELATED TO THE EXTRAORDINARY STORM DEFERRAL?

A. As I previously stated in my section related to the Company's Storm Costs, my arguments for cumulative storm costs are valid here. I am recommending disallowance of these costs in rate base because these Extraordinary Storm Costs are considered operating expenses and not capital investments. The Company should not be earning a return on these costs akin to a cash working capital allowance, and also recovering these costs through an amortization expense. The Company should only be authorized to recover actual and known operating expenses associated with its repairs of the storm-related damages allowed by the Commission in any petition to record costs as a regulatory asset. I do not see where the Commission allowed recovery of Extraordinary Storm costs to be included in rate base in addition to recovery of these costs through operating expenses. In the Commission's Opinion and Order in Docket No. R-2019-3014988 dated April 30, 2020, the Commission

stated that these costs are to be deferred for accounting purposes only, and these expenses include actual costs- excluding capital costs, insurance recovery and straight time wages and benefits. Extraordinary Storm costs are considered to be an anomaly and not as a normal recurring operating expense, or an average that is used as the basis for setting storm reserve accruals.

Q. WHAT OTHER ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S EXTRAORDINARY STORM COSTS?

A. I am recommending an adjustment to the Company's Extraordinary Storm costs by removing the costs associated with the pending storm deferral petition in Docket No. P-2023-3044479 (Penn-Power) of $9,577,540 as identified in response to OCA-Set IV-16 and 17). Given that this petition has not been ruled on, I am recommending disallowance of this balance and adjusting the Extraordinary Storm costs to $75,516,460 This balance is calculated by taking the Company's proposed Extraordinary Storm costs of $85,094,000 and reducing that balance by $9,577,540. The $75,516,460 balance is then adjusted by Mr. Rao's 21.3% SAIFI adjustment to arrive at a balance of $59,431.454. (See Exhibit DM-20). I am also recommending that this balance be amortized over a 5.3 year period in the same manner as I am recommending recovery of rate case expenses included in this filing.

Q. WHAT IS YOUR FINAL ADJUSTMENT WITH RESPECT TO THE COMPANY'S EXTRORDINARY STORM COSTS?

A. As more fully explained by OCA witness Mr. Rao Konidena, and as explained above, I am recommending an adjustment to the Company's Extraordinary Storm costs by adjusting this balance based on the Company's reliability performance measures with respect to its System Average Interruption Frequency Index (SAIFI) as addressed on page 26-27 of Mr. Konidena's testimony. Accordingly, based on these poor reliability numbers and Mr. Konidena's testimony I am disallowing 21.3% of the Company's Extraordinary Storm costs. As shown on my Exhibit DM-20, adjusting the balance of $75,516,460 by 21.3%. results in a balance adjustment of $9,577,540 or a recommended balance of the Company's Extraordinary Storm costs of $59,431,454 . Amortizing this balance over a 5.3 year period results in an annual recovery of $11,213,482.

Q. WHAT IS YOUR ASSUMPTION RELATED TO THE COMPANY'S EXISTING STORM EXPENSE AND EXISTING EXTRAORDINARY STORM EXPENSE DEFERRALS ?

A. In sum, the Company should continue to separately account for the amortization of deferred storm costs and for the extraordinary storm costs through amortization over a five-year period. There should be no rate base recognition for either storm costs or for extraordinary storm costs.

Q. DO YOU BELIEVE THE COMPANY'S STORM RESERVE ACCOUNT MECHANISM SHOULD CONTINUE?

A. No. I believe that the Storm Reserve Account should not continue as proposed by the Company. These Storm Reserve Accounts were established in 2014 and continued through 2016 under the Company's base rate case proceedings, with the reasoning that the Company did not seek to modify the amounts in the Storm Reserve Account in the 2016 base rate proceeding as the Storm Reserve Accounts were in place for less than one year and appeared to be working as the parties intended in the Joint Petition (I&E RE-12). It has been 8 years since the Company's last base rate case. The Company has incurred storm expenses as shown in response to OCA – Set IV-19 in each of the years 2017 through 2023. The current approach of booking annual storm cost expenses to a Storm Damage Reserve account should be discontinued as it appears the Company has no incentive to control storm costs and are seeking to collect all of the deficiencies that have been built up over the years. The current approach has failed to function as applied and the continuing establishment of a storm reserve account has not been demonstrated to be necessary. A reasonable level of storm costs should be included in base rates for each of the Rate Districts in this case. Thereafter, the Company has the opportunity to file a base rate case proceeding if the Company believes its earnings have been eroded due to excessive storm costs.

COVID-19 Deferral

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS RECOVERY OF ITS COVID-19 DEFERRAL?

A. Ms. Larkin stated that the Company included $30,383,000 of costs related to COVID-19 and has proposed to amortize these costs over a three-year period, resulting in a Rate Base balance of $($30,383,000/3=$10,128,000) $20,255,000. (Statement No. 3 at 11 and FE Exhibit PML-1 page 20 and 56).

Q. WHAT DID THE COMPANY STATE REGARDING THE DEVELOPMENT OF THE DEFERRAL BALANCE?

A. Ms. Larkin stated that the Commission recognized that compliance with its Emergency Order (Public Utility Service Termination Moratorium Proclamation of Disaster Emergency-COVID-19 issued at Docket No. M-2020-3019244 and ratified on March 26, 2020) may result in incremental extraordinary, non-recurring expenses related to COVID-19, including uncollectible expenses. (Statement No. 3 at 25). Ms. Larkin stated that the Commission authorized utilities to create a regulatory asset for any incremental expenses incurred in excess of those embedded in rates since the issuance of the Emergency Order. In order to be eligible for inclusion in a utility's COVID-19 designated regulatory asset, the utility must maintain detailed records of the incremental extraordinary, nonrecurring expenses incurred as a result of compliance with the Emergency Order. (Statement No. 3 at 25-26).

Q. WHAT TYPES OF COSTS DID THE COMPANY INCLUDE IN ITS COVID-19 DEFERRAL BALANCE?

A. The Company included such costs as waived late payment charges, waived reconnect charges, a bill assistance media campaign, two outbound dialing campaigns, customer mailing and postage. The Company also included incremental uncollectible accounts expense of $20,285,000 as shown on Company FE PA Exhibit PML-1 page 57 of 65 (Adjustment IS-10 Supporting Schedule 1).

Q. HOW WILL THE COMPANY RECOVER THESE COSTS?

A. As stated by Ms. Larkin, the Company is proposing to recover these costs over three-years or $10,128,000 annually. (Statement No. 3 at 27). The three-year period was selected

because it is consistent with the COVID-19 recovery period approved by the Commission for PECO Energy Company at Docket No. R-2021-3024601 and Duquesne Light Company at Docket No. R-2021-3024750. (Statement No. 3 at 27).

Q. WHAT DID THE COMMISSION'S SECRETARIAL LETTER STATE REGARDING RECOVERY OF THESE COST?

A. In response to OCA-Set IV-40, the Company provided the Secretary's Letter dated May 13, 2020. In that Letter the Commission directed all utilities, in part, to review and comply with the following provisions:

- Directed all jurisdictional electric, natural gas, water, wastewater, steam and telecommunication utilities to track extraordinary, non-recurring incremental COVID-19 related expenses and to maintain detailed accounts records of such expenses.
- Creation of a regulatory asset for any incremental uncollectible expenses incurred above those embedded in rates since the issuance of the Emergency Order. The utility must maintain detailed records of the incremental extraordinary, non-recurring expenses incurred as a result of compliance with the Emergency Order.
- In order to be eligible for consideration for recovery as a COVID-19 exogenous event, the utility must maintain detailed records for the extraordinary, nonrecurring incremental expenses incurred as a result of compliance with the Emergency Order and the FCC Pledge as outlined in Part 1 of this Secretarial Letter.
- A utility shall file a notice with the Commission upon establishing a regulatory asset as described in this letter. The Commission will consider in future proceedings whether each utility's request for recovery of any regulatory asset or exogenous event recovery related to the Emergency Order is just and reasonable pursuant to 66 Pa. C.S. § § 1301, 1308 (as applicable) and applicable Chapter 30 plans. The Commission will also consider during those proceedings other issues, such as the appropriate period of recovery for the approved amount of the regulatory asset or exogenous event treatment, any amount of carrying costs thereon, and other related matters. Regulatory entities shall claim the deferred expenses at their first available opportunity.

Q. WHAT TYPES OF COSTS ARE INCLUDED IN THE COMPANY'S BALANCE?

A. As shown on Company's FE PA Exhibit PML-1 page 57 of 63 (Adjustment IS-10 Supporting Schedule -1 COVID-19 Expenses), the Company booked the following:

- Incremental Uncollectible Accounts $20,285,000

• Late Payment Charge Waivers	$ 8,903,000
• Reconnect Charge Waivers	$ 27,000
• Bill Assistance Media Campaign	$ 960,000
• Postage	$ 127,000
• Customer Mailings	$ 58,000
• Outbound Dialing Campaign	$ 16,000
• Emergency Rental Assistance Program Outbound Dialing Campaign	$ 7,000
Total	$30,383,000

Q. HAS THE COMPANY APPLIED FOR ANY COVID-19 RELIEF?

A. No. In response to OCA-Set XIV-2 the Company stated that it did not apply for any Federal or State COVID relief funding. During the COVID-19 pandemic the Company maintained the ability to access the capital markets and had sufficient sources of liquidity to support ongoing operations in a manner that was not significantly detrimental to FE PA's business.

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. I am recommending disallowance of Rate Base recovery of the Company's $30,383,000 balance and only recommending recovery of these expenses through amortization. I believe these types of costs listed above should not be afforded carrying charges (Rate Base recognition) as these are not the sort of expenditures that the Company should earn a recovery on. These costs are extraordinary, temporary in nature and will not remain permanently on the Company's balance sheet, as with other expenditures that are used in the normal daily operations of the utility. Thes types of costs should only be afforded recovery through expense amortization. I am also recommending that these costs be amortized over the same period of time as my recommended rate case expenses of 5.3 years. [8] In addition, the Company expects the ratepayers to fund 100% of these COVID-19 costs without any offsets or relief that could have been afforded from Federal and State agencies. Ratepayers should not be burdened with requiring to pay for rate base recognition and recovery of operating expenses related to these COVID-19 expenses. My recommendation is shown on my Exhibits DM-10 and DM-20.

[8] Discussed under Administrative and General section page 63.

Verizon Complaint

Q. WHAT HAS THE COMPANY PROPOSED REGARDING THE VERIZON COMPLAINT?

A. Ms. Larkin stated that the Company proposed an addition to rate base for the Verizon complaint balance. (Statement No. 3 at 11). The Company proposed a balance of **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL)** shown on Confidential Exhibit JMS-4 and FE PA Exhibit PML-1 page 20 of 63 (Adjustment RB-5). The Company has proposed to amortize this balance over a **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL)** (FE PA Exhibit Larkin-1 page 56 of 63 Adjustment IS-10).

Q. HOW DID THIS RATE BASE ITEM COME ABOUT?

A. Ms. Savage stated that the Company's FPFTY reflect the estimated level of pole attachment revenues from Verizon, reflective of the Commission's directives in its Order entered into on December 3, 2020, in Docket No. C-2020-3019347. In that proceeding Verizon challenged the rates it paid to attach to poles per its contractual agreements in the Met-Ed, Penelec, and Penn Power Rate Districts. (Statement No. 1 at 21). The Commission ordered that the rates Verizon paid to FE PA be reduced. FE PA's pole attachment revenues are recorded as other operating revenues and offset each of the respective Rate District's overall revenue requirement. (Statement No. 1 at 22). In order to ensure that the rates adopted in this instant case reflect the impacts of the Commission's decision in the Verizon Complaint, the Company has reflected the full impact of the order in its initial filing. To the extent that an appellate court decision affects the amount by which Verizon pays FE PA should be reduced, FE PA will update its proposed revenue requirement to reflect such impacts. (Statement No. 1 at 22).

Q. HAS THE COMPANY STATED THAT THERE ARE ANY UNRESOLVED ACTIONS REQUIRED FROM THE COMMISSION OR COMPANY TO RESOLVE ANY OUTSTANDING ISSUES?

A. In response to OCA XIV-13, the Company stated that the decisions of the Commission and the Commonwealth of Court of Pennsylvania to date in the Verizon Complaint have left open the question of what rate the FE PA Districts should collect for attachments to

Verizon's poles. According to the Company. in the event that FE PA and Verizon are not able to reach an agreement, FE PA will have to bring a complaint before the Commission to bring the matter to resolution.

Q. WHAT IS YOUR RECOMMENDATION?

A. I have been advised by OCA Counsel that The Company's appeal to the Supreme Court of Pennsylvania was accepted on June 10.[9] Given that this issues is highly speculative on how the Supreme Court of Pennsylvania will rule with respect to the level of revenues the Company is required to collect from Verizon and the rate impacts that any refunds will or will not have, I am recommending disallowance of the entire balance as it is not known and measurable at this time or likely before the end of the FPFTY. If the Company were to begin charging ratepayers for the proposed Verizon revenues, and subsequently, the Supreme Court of Pennsylvania were to rule for the Company, the ratepayers would be on the hook for costs that they should have never paid in the first place that will be difficult to be returned. Once the outcome of the litigation with Verizon is more certain, the Company can seek an adjustment in its next base rate case proceeding with respect to the Verizon complaint once the matter is resolved. My recommendation is shown on my Exhibits DM-10 and DM-20.

5. <u>Capitalized Pension and OPEB Asset</u>

Q. WHAT HAS THE COMPANY PROPOSED REGARDING THE CAPITALIZED PENSION / OPEB TIMING DIFFERENCES?

A. The Company has proposed to include a balance of ($10,162,000) in Rate Base as shown on Company FE PA Exhibit PML-1 page 24 of 63 Adjustment RB-9. Ms. Larkin stated that this adjustment is to eliminate the timing differences between the recognition of pension and OPEB expenses and rate base under the immediate and delayed recognition methodologies for the portion of the costs capitalized from 2011 through 2017. (Statement No. 3 at 13).

[9] Case No. 550 MAL 2023 and Case No. 590 MAL 2023.

Q. HOW DOES THE COMPANY CURRENTLY ACCOUNT FOR ITS RECOVERY OF PENSION AND OPEB COSTS?

A. Ms. Ashton stated that effective for the fiscal years ending December 31, 2011, the Company elected mark-to-market accounting for pension and OPEB plans. The Company recorded as a mark-to-market adjustment, actuarial gains or losses immediately to earnings. (Statement No. 4 at 8). This accounting method is the preferable method under GAAP but increases the year-to-year volatility of the Company's recorded pension and OPEB costs. (Statement No. 4 at 8). Currently the Company utilizes a 10-year historical average of actual cash contributions to the pension plan to recovery pensions and the service cost component of OPEB is recovered from ratepayers. (Statement No. 4 at 9).

Q. WHAT ARE THE REASONS STATED BY THE COMPANY IN INCLUDING THE PENSION ASSET FOR RECOVERY IN RATE BASE?

A. Company witness Ms. Ashton stated that the Company has proposed to change its recovery of pension and OPEB expenses to the delayed recognition method. (Statement No. 4 at 9). The Company stated that the delayed recognition method approach better reflects the periodic costs incurred to offer the pension plan to employees than utilizing an average of cash contributions to the pension plan over a period of years. (Statement No. 4 at 10). The Company stated that if this method is approved the proposed recovery method will better match cost recovery with the periodic costs to provide these benefits to employees. It will provide greater alignment between costs and recovery and will keep the pension costs recovered from ratepayers consistent with the current methodology for the Company. (Statement No. 4 at 10). The Company stated that the proposed recovery methodology will align with the Company's affiliated utilities in New Jersey, Maryland and West Virginia. (Statement No. 4 at 10). Ms. Ashton stated that the ratemaking treatment proposed in this proceeding is a departure from the long-standing cash recovery methodology used in PA. (Statement No. 4 at 12).

Q. WHAT OTHER ASSUMPTIONS DID THE COMPANY STATED AS THE REASONS TO CAPITALIZE PENSION COSTS?

A. Ms. Ashton stated that the return on the investments in the pension and OPEB trusts as (non-cash) income in the Company's financial statements. This means that when the trusts do well, the Company's income and in return its ROE increases. Likewise when there are downturns in the market, there is a corresponding decrease to the Company's income and ROE. (Statement No. 4 at 12). See response to I&E RE 21, 22, 23, 24, 25, 26, 27, and 28

Q. HAS THE COMPANY ACKNOWLEDGED THAT THE COMMISSION DISALLOWED THE INCLUSION OF CAPITALIZED PENSION ASSETS IN A PRIOR COMMISSION DECISION?

A. Yes, in response to OCA Set-IV-21 the Company stated that the Commission recently disallowed inclusion of capitalized pension asset based upon the difference between PECO Energy Company's calculated pension costs for ratemaking purposes and the calculation of pension expense under generally accepted accounting principles set forth in Accounting Standards Codification 715.

Q. WHAT ARE YOUR OPINIONS WITH RESPECT TO THE COMPANY'S PENSION AND OPEB BALANCE?

A. I am recommending disallowance of the Company's Pension Asset of ($10,161,938) from Rate Base. The Company's adjustment is merely for the change in methodology to account for the timing differences under the immediate recognition versus the delayed recognition. (I&E RE -21). The Company stated that the rate base adjustment is necessitated because the Company capitalized all pension and OPEB costs or credits (including the mark-to-market) for the period 2011 through 2017. The Company amended its capitalization policy upon adoption of the Accounting Standards Update 2017-17 on January 1, 2018. (I&E RE-21). The Company stated that changes in the value of this rate base adjustment are dependent on the timing of when book depreciation and tax depreciation timing differences are $0. The Company stated that In response to OCA Set 14-1, the Company stated that the Capitalized Pension and OPEB costs are expected to be reduced to $0 in the year 2074. In sum, these are related to accounting differences when changing methodologies in which could be used for accounting purposes but should not be used for ratemaking purposes. The Company is trying to align the changes of its pension plan and OPEB costs in order to

reduce any volatility in its costs. Although the Pension and OPEB adjustments is a negative balance, future adjustments may swing this balance to a positive number in which ratepayers will have the burden to pay for, eliminating any risks to the Company.

Q. DO YOU BELIEVE THAT THESE PENSION ASSETS SHOULD BE CAPITALIZED?

A. No. In a prior rate case proceeding,[10] a similar claim for including pension assets in rate base was made. The Commission issued its Order on June 22, 2021, denying rate base recognition of the Pension Asset in that case. The Commission held as follows:

> "[W]e are not persuaded that inclusion of the Company's Pension Asset in rate base is a reasonable and necessary means of recovery of PECO's pension expense."[11]

In that Order, the Commission correctly concluded that the Pension Asset is a financial accounting mismatch that arises from the unique nature of the applicable accounting requirements for pension expenses in addition to the employer's obligation to comply with specific pension funding requirements.

Accordingly, in this instance, FirstEnergy's claimed Pension and OPEB Asset is merely a financial accounting mismatch that, if allowed in rate base, may overstate rate base prospectively when changes in the funding levels over time and becomes a positive number. The Company has stated that it has not proposed to amortize this balance over time but has stated that changes in the value of the rate base balance are dependent on the timing of when book depreciation and tax depreciation timing differences are $0. Moreover, such treatment may inappropriately allow the Company to earn a return when the rate base component becomes positive. This prospective positive pension expense would violate fundamental principles of ratemaking as it would allow the Company to earn a return on past costs. Furthermore, while there is currently an accounting mismatch due to fluctuations in the general funding requirements, those funding requirements are intended to equal employer's contributions over the life of the pension. For these reasons, the Pension Asset should not be included in rate base as proposed by the Company,

[10] PECO Energy Company- Gas Division (PECO Gas) Docket No. R-2020-3018929.
[11] Docket No. R-2020-3018929, Opinion and Order at 67 (June 22, 2021)

consistent with the Commission's recent decision at Docket No. R-2020-3018929. This adjustment is shown on my Exhibit DM-8.

6. Accumulated Deferred Income Taxes (ADIT)

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS ACCUMULATED DEFERRED INCOME TAXES (ADIT)?

A. The Company proposed a balance in its ADIT in the amount of $1,846,713,000 as shown on Company FE PA Exhibit PML-1 Adjustment RB-8 page 23 of 63. This balance represents the federal property related deferred income tax balances, excluding the impact of Statement of Financial Accounting Standards No. 109 deferrals, to eliminate (1) excludable items, primarily capital lease vehicles; (2) include an offset for net operating loss carryforwards as required by the Internal Revenue Service normalization rules; (3) include an offset for the corporate alternative business minimum tax credit and; (4) eliminate an allocated portion related to the Waverly Rate District. (Statement No. 3 at 12-13).

Q. WHAT ADJUSTMENTS DO YOU HAVE RELATED TO THE COMPANY'S ADIT BALANCE?

A. I am relying on the recommendation of OCA witness Mr. Garrett with respect to the development of the Company's ADIT balance in which the depreciation expense flows through the ADIT balance at and adjusted at the Federal Income Rate of 21%. My adjustments reflects my recommended removal of certain projects that I addressed in my EPIS testimony section.

Q. WHAT IS YOUR TOTAL ADJUSTMENT RELATED TO THE COMPANY'S ADIT BALANCE?

A. I utilized Mr. Garrett's recommended balance in the Accumulated Depreciation adjustment of $62,573,657 and multiplied that amount by the Company's composite rate of 27.312% as shown on Company FE PA Exhibit PML-1 page 63 of 63. This produces an adjustment of $17,090,117 ($62,573,657 x 27.12%). This is shown on my Exhibit DM-9.

C. RATE OF RETURN

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS RATE OF RETURN?

A. The Company has proposed an overall rate of return of 8.19% (Company FE PA Exhibit PML-1 page 3 of 63). This includes a long-term debt cost of 4.56% (weighted cost of 2.11%) and a common equity return of 11.30% (weighted return of 6.08%).

Q. WHAT HAS OCA WITNESS DR. MARLON GRIFFING PROPOSED WITH RESPECT TO HIS RECOMMENDED OVERALL RATE OF RETURN?

A. Dr. Griffing has recommended an overall rate of return of 6.97% with a long term debt cost of 4.56% (weighted cost of 50.00%) and a common equity component of 9.38% (weighted return of 50.00%. This is shown on Dr. Griffing's Exhibit MG-20-Schedule 3.

Q. WHAT EFFECT DOES DR. GRIFFING'S PROPOSED RETURN ON EQUITY HAVE ON THE COMPANY'S REVENUE REQUIREMENT?

A. The effect of Dr. Griffing's recommendation of the Company's return on equity from 11.30% to 9.38% along with the Company's Long-Term Debt Ratio of 46.19% and cost of debt rate of 4.56% and the Company's proposed Equity Ratio of 53.810% for an overall rate of return of 7.16% results in a revenue requirement reduction of $109,147,446.[12]

Q. WHAT EFFECT DOES DR. GRIFFING'S PROPOSED OVERALL RATE OF RETURN OF 6.97% AND THE COMPANY'S OVERALL CAPITAL STRUCTURE USING DR. GRIFFING'S PROPOSED RETURN ON EQUITY OF 9.38% HAVE ON THE COMPANY'S REVENUE REQUIREMENT?

A. The effect of Dr. Griffing's overall Rate of Return of 6.97% and the Company's overall Capital Structure using Dr. Griffing's proposed Return on Equity of 9.38% would be 7.15% and results in a revenue requirement adjustment of $19.073 million. [13]

[12] Company Rate Base of $7,165,798,000 times the rate of return of 7.16% equals $513.071 million or a reduction from FirstEnergy's proposed income requirement of $586.879 million or $73.808 million multiplied by the gross revenue factor of 1.478808 equals $109.147 million.

[13] Company Rate Base of $7,165,798,000 times the rate of return of 7.15% using Dr. Griffing's Return on Equity of 9.38% equals $512.354 million. Dr. Griffing's overall Rate of Return with a 50% Debt Ratio and a 50% Equity ratio with a Return on Equity of 9.38% or and overall Rate of Return of 6.97% equals $499.456 million or a difference of $12.898 million multiplied by the gross revenue factor of 1.478808 equals $19.073 million.

D. OPERATING INCOME

1. Operating Revenues

Q. WHAT HAS THE COMPANY PROPOSED AS ITS OPERATING REVENUE AT PRESENT RATES AND PROPOSED RATES?

A. As shown on Company Exhibit FE PA PML-1 page 25 of 63, the Company proposed total Operating Revenues at Present Rates of $1,569,644,000, and total Operating Revenues at Proposed Rates of $2,073,493,000. The difference represents the revenue increase of $502,490,000.

Q. WHAT ADJUSTMENTS DID THE COMPANY MAKE TO DERIVE ITS $1,569,644,000 BALANCE AT PRESENT RATE REVENUE?

A. As shown on Company FE PA Exhibit PML-1 page 30 of 63 (Adjustment IS-1), the Company made various adjustments to account for: (1) budgeted total results of operations; (2) budgeted revenues and expenses related to separate Section 1307 reconcilable riders not being rolled into base rates in this proceeding; (3) budgeted base rate results of operations; (4) adjustments to the budget; (5) pro forma adjusted results of operations at proposed rates; (6) proposed rate increase; (7) pro forma adjusted results of operations at proposed rates and; (8) FE PA or individual rate district total pro forma adjusted results of operations including surcharges. The Company also incorporated specific adjustments made to normalize and annualize the budgeted data. (Statement No. 3 at 13-14).

Q. DID THE COMPANY UPDATE ITS OPERATING REVENUE SUBSEQUENT TO THE INITIAL FILING?

A. No, the Company did not update its Operating Revenue subsequent to the initial filing.

Q. DO YOU HAVE ANY ADJUSTMENTS TO THE COMPANY'S PRESENT RATE REVENUE?

A. No, I do not.

2. OPERATION AND MAINTENANCE EXPENSES

Q. HOW DID THE COMPANY DEVELOP ITS OPERATING EXPENSES PRESENTED FOR RECOVERY IN THIS RATE PROCEEDING?

A. According to Company witness Mr. Smith, the Company's Operation and Maintenance Expenses (O&M) include the costs of day-to-day activities of operating and maintaining the electric system in accordance with the Company's plans and engineering practices. The Company developed its O&M budget based upon the estimated costs of its annual Inspection and Maintenance (I&M) programs, identified O&M projects, and service restoration expenses. The starting point for the annual O&M budget is the prior year's budget with escalation adjustments that include but are not limited to gross wage increases for bargaining and non-bargaining employees and changes to headcount for expected staffing levels, attrition, and internal transfers. The Company considers any new or changing technical or operational requirements or practices like shifting from five-years to two years inspection cycles as well as complying with new Commission Orders or regulations. (Statement No. 2 at 16). Mr. Smith stated that the largest changes to the Company's O&M expenditures are due to labor wages which increase 3% to 4% annually but may vary based on contractual agreements (Statement No. 2 at 17). O&M costs increased beginning in 2022 due to a change in FirstEnergy's accounting practices in 2021 which affected certain vegetation management practices, resulting in dollars moving from capital to O&M as well as increased storm restoration costs and other dedicated I&M initiatives. (Statement No. 2 at 17).

Q. HAS THE COMPANY INCLUDED ANY INFLATIONARY OR CPI INDICES IN ORDER TO DEVELOP ITS PROPOSED AND FORECASTED OPERATION AND MAINTENANCE EXPENSES?

A. No. In response to OCA Set IV-3, the Company stated that it did not include any specific inflationary adjustments in the development of its proposed revenue requirement increase.

Q. HAS THE COMPANY INCLUDED ANY MERGER RELATED COSTS SAVINGS TO OFFSET ITS PROPOSED REVENUE REQUIREMENT INCREASE?

A. No. In response to OCA-Set-IV-5, the Company stated that FirstEnergy is tracking those savings but due to the proximity of this instant filing to the closing of consolidation, such

savings are immaterial at this time. The Company will continue to track savings consistent with the PA Consolidation Settlement Agreement and address those savings in future rate cases.

Q. WHAT IS YOUR RESPONSE?

A. I am recommending that the Company provide any potential and preliminary merger related costs savings that have been incurred to date with respect to the Commission approval to merge the four electric companies on January 1, 2024, along with a detailed breakdown of such costs in the Company's rebuttal testimony. The Company should continue to update these merger-related costs savings throughout the rate proceeding. Further, the Company has proposed to include costs related to its Low Income Outreach Program which purportedly will be a program to assist low-income customers. This program arose out of the merger in order to increase awareness of programs to low-income customers throughout the Company's service territories. Not only has the Company not provided any merger related savings, but the Company's also is proposing to have ratepayers pay for this program that the Company claims to benefit ratepayers.

Q. WHAT LEVEL OF OPERATING EXPENSES HAS THE COMPANY PROPOSED TO RECOVER IN THIS PROCEEDING UNDER ITS FPFTY TEST PERIOD?

A. As shown on FE PA Exhibit PML-1 page 25 of 63, the Company has proposed to recover $1,355,205,000 of Operating Expenses before Income Taxes.

Q. WHAT LEVEL OF OPERATING EXPENSES HAS THE COMPANY PROJECTED IN ITS FTY PERIOD?

A. As shown on FE PA Exhibit PML-2 page 25 of 63, the Company has projected $1,326,582,000 of Operating Expenses before Income Taxes, a difference of $28,623,000. (2.15% increase).

Q. WHAT LEVEL OF OPERATING EXPENSES HAS THE COMPANY RECOVERED UNDER ITS HTY PERIOD?

A. As shown on FE PA Exhibit PML-3 page 25 of 63, the Company booked $1,263,366 before Income Taxes, a difference of Operating Expenses, a difference of $63,216,000 compared to FTY period. (4.76% increase).

Q. WHAT DOES THIS SHOW?

A. This review shows that the Company's revenue requirement proposed is mainly driven by the inclusion of capital plant additions expected to be placed in service from the HTY period 2023 through the FPFTY period 2025 in the amount of $1,308,256,000 as shown on Company Exhibit PML-1, PML-2 and PML-3, pages 4 of 63. This revenue requirement increase is also driven by the Company's proposed overall rate of return using 11.30% as the proposed return on equity.

a. Power Supply Expenses

Q. WHAT DID THE COMPANY PROPOSE REGARDING ITS POWER SUPPLY EXPENSES?

A. The Company proposed a Power Expense balance of $0 as shown on Company FE PA Exhibit PML-1 page 25 of 63. The eliminated expenses related to Retained Riders as shown on Company FE PA Exhibit PM-1 page 30 of 63. These are related to Section 1307 reconcilable riders not being rolled into base rates and includes Default Service Support rider and Hourly Pricing Default Service totaling $2,093,218,000. The adjusted total of the retained riders is excluded from the income statement to derive the per budget revenues and expenses included in base rates. (Statement No. 3 at 14).

Q. DO YOU HAVE ANY ADJUSTMENTS TO THE COMPANY'S POWER SUPPLY EXPENSE?

A. No. I am accepting the Company's balance of $0. My balance is shown on my Exhibit DM-11.

b. Transmission Expense

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS TRANSMISSION EXPENSE?

A. As shown on Company FE PA Exhibit PML-1 page 37 of 63 (Adjustment IS-4) the Company proposed a Transmission Expense balance of $6,645,000. The Company began with its Per Budget balance of $6,580,000 and to that balance the Company added $61,000

related to payroll expense to reflect year end employee levels, and wages and salary rates. The Company added $4,000 related to payroll expenses allocated to FirstEnergy from the FirstEnergy Service Company to also reflect year end employee levels and wages and salary rates. The total proposed balance for recovery is $6,645,000.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED TRANSMISSION EXPENSE BALANCE?

A. While I have adjustments to the Company's payroll adjustments of $61,000 and the Allocated payroll adjustments from the FirstEnergy Service Company of $4,000, my adjustments are identified and explained under section c-1 below. These adjustments are carried over to my Exhibit DM-13 on an overall basis and also reflects my recommended adjustments to the Company's Incentive Compensation and Incentive Compensation that has been allocated from the FirstEnergy Service Company. These adjustments are carried over to my Exhibit DM-4 that encompass all salary and wage adjustments in total.

Q. WHAT ARE YOUR ADJUSTMENTS RELATED TO THE COMPANY'S TRANSMISSTION EXPENSE?

A. Except for the overall salary and wages from the Company's payroll and allocated payroll from the FirstEnergy Service Company, I do not have any adjustments. This is shown on my Exhibit DM-12.

c-1. <u>Company Overall Payroll Expense (Salary and Wages)</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS PAYROLL EXPENSE?

A. As shown on Company Exhibit FE PA PML-1 Page 38 of 63 (Adjustment IS-4 Supporting Schedule 1), the Company proposed an overall Payroll Expense balance of $280,467,000. The Company began with a Payroll balance of $277,544,000 and added $2,325,000 plus $247,000 to reflect bargaining increases for its various union contracts through November 1, 2025 to arrive at an increase of $2,572,000. The Company then adjusted its Non-Bargaining employees to reflect increases in salaries through March 1, 2025 of $351,000. The total Payroll Expense balance adjustment was calculated at $2,923,000. The Company

allocated and calculated a portion of this increase to its O&M payroll adjustment of $1,261,976. The Company then allocated the $1,261,976 balance to its Operating and Maintenance Expense categories (Transmission, Distribution, Customer Accounts, Customer Service and Administrative and General) as shown on FE PA Exhibit PML-1 page 38 of 63. (OCA-Set-IV-24).

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS PAYROLL INCREASE FOR THE FIRSTENERGY SERVICE COMPANY EMPLOYEES?

A. The Company proposed an overall Payroll Expense increase of $611,000 for its FirstEnergy Service Company employees as shown on Company Exhibit FE PA PML-1 page 39 of 63 (Adjustment IS-4 Supporting Schedule 1). The Company began with a Payroll Expense balance of $16,287,000 and added salary increases dates through March 1, 2025, to arrive at a balance of $611,000. The Company allocated and calculated a portion of this increase to its O&M payroll adjustment of $267,000. The Company then allocated $267,000 to its Operating and Maintenance expense categories (Transmission, Distribution, Customer Accounts, Customer Service and Administrative and General) as shown on FE PA Exhibit PML-1 page 39 of 63.

Q. HOW DID THE COMPANY DEVELOP ITS PROPOSED PAYROLL EXPENSE INCREASES FOR IS FIRSTENERGY EMPLOYEES AND THE FIRSTENERGY SERVICE COMPANY EMPLOYEES?

A. The Company normalized the FirstEnergy PA salaries and wages for each of its rate districts and allocated a portion of the FirstEnergy Service Company's payroll to reflect year-end wages and employee levels. The Company eliminated an allocated portion related to FERC jurisdictional transmission expense for the West Penn Rate District and eliminated an allocated portion related to the Waverly Rate Districts. (Statement No. 3 at 15).

Q. WHAT OTHER COSTS AND EXPENSES ARE INCLUDED IN THE COMPANY'S PAYROLL EXPENSES?

A. Included in the Company's Payroll expenses are expected employee hires for 2024 and 2025. In response to OCA Set IV-24, the Company has projected 64 hires in 2024 and 12 additional hires in 2025. The Company stated that it does not budget to the title level

anticipated hires, and the timeline of anticipated hires are estimated based on present rate district staffing levels.

Q. WHAT OTHER COSTS ARE INCLUDED IN THE COMPANY'S PAYROLL EXPENSES?

A. The Company included $13,838,000 of Incentive Compensation costs in its Payroll Expenses. (OCA Set IV-28, and Workpaper II-D-10). The Company stated that its Incentive Compensation costs were based upon historical Incentive Compensation as well as input from Human Resources on the expected payout, as the metrics related to 2025 have yet to be determined and approved through the annual Key Performance Indicators (KPI) process. (OCA-Set-IV-29).

Q. HAS THE COMPANY INCLUDED ANY INCENTIVE COMPENSATION COSTS RELATED TO THE FIRSTENERGY SERVICE COMPANY?

A. Yes. In response to OCA-Set-IV-4, the Company has included Short-Term Incentive Compensation (STIP) of $15,813,792 and Long-Term Incentive Compensation (LTIP) of $8,629,446.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED PAYROLL EXPENSE?

A. My first adjustment is to incorporate a vacancy rate ratio to adjust the Company's expected level of employees to be employed through the FPFTY 2025 period.

Q. WHAT ARE YOUR RECOMMENDING A VACANCY RATE RATIO?

A. I am recommending a vacancy rate ratio because in all organizations there is always a certain level of vacancies that will not be filled at any given time of the year. This is due to employees retiring, leaving the company, getting fired, being laid off and eliminations of positions and employees. In response to OCA-Set-IV-24, the Company stated that staffing requests require the hiring manager to complete an FE Staffing Authorization Request form which is then submitted to the Executive Council member(s) for review and approval / denial. The hiring process requires whether the position to be filled is for a newly created role, backfills, whether the position is budgeted for and whether the request is to post internally, externally to the public or both. If the Staff Authorization Request is

approved by the Executive Council member(s), the hiring manager may proceed with posting and filling the positions. There is a lot of variability in this process, and it is uncertain whether all of the Company's proposed hires will be hired through the FPFTY 2025 period.

Q. WHAT HAS THE COMPANY PROVIDED WITH RESPECT TO ITS VACANCY RATES?

A. In response to OCA-Set-IV-24 the Company provided the following vacancy rates:

Year	Number of Vacancies	Percent
2019	27	1.1%
2020	57	2.4%
2021	48	2.0%
2022	327	13.6%
2023	57	2.7%

Q. WHAT PERIODS OF TIME ARE YOUR USING TO CALCULATE YOUR PROPOSED VACANCY RATE RATIO?

A. I am recommending using the time periods 2020, 2021 and 2022 as the periods to calculate the vacancy rate ratio. This results in an average vacancy rate ration of 2.366%. I discounted the 2022 vacancy rate ratio of 13.6% because I believe this is an anomaly or an irregularity and might be based upon the Company's merger approval of the four electric companies effective on January 1, 2024.

Q. WHAT DOLLAR ADJUSTMENT IS CALCULATED BY THE USE OF A 2.366% VACANCY RATE RATIO?

A. My vacancy rate ratio calculates to an adjustment of $6,233,462. I utilized the Company's proposed straight-time payroll of $225,357,000 and overtime payroll of $38,349,000 or a balance of $264,006,000 and multiplied that amount by 2.366% to arrive at a balance of $6,223,462. This is shown on my Exhibit DM-13.

Q. WHAT INFORMATION HAS THE COMPANY INCLUDED TO SUPPORT ITS INCENTIVE COMPENSATION EXPENSE?

A. The Company has proposed to include Incentive Compensation $13,838,000. In response to OCA-V-43 the Company provided the performance standards and metrics used to measure the achievement in determining these costs. These performance standards include safety, operating earnings, operations index, and DEI (for managers and above). There is also an individual performance modifier and an ethics and compliance modifier to encourage a high standard of performance and ensure employee behavior that aligns with the company's code of conduct. The Company has included an operations index scored on five components including System Average Interruption Duration Index (SAIDI), Transmission Outage Frequency, Engaged Customer Relationship Score, FirstEnergy Environmental Excursions and Notices of Violation, and Regulated Generation Equivalent Forced Outage Rate.

Q. WHAT HAS THE COMPANY PROVIDED TO SHOW THE BREAKDOWN OF THIS INCENTIVE COMPENSATION EXPENSE?

A. In response to OCA Set-XII-4, the Company provided the following breakdown related to each of the Company's performance metrics/indicators and goals:

Financial Metrics	Weighted Average	**$ Amount**
Operating Earnings	20%	
State Distribution Baseline O&M	10%	
Total	30%	$4,151,400
Safety Metrics		
OpCo DART	10%	
Systemwide Life Changing Events	10%	
OpCo CMVAR	5%	
Total	25%	$3,459,500
Operational		
OpCo – SAIDI	10%	

	Operations Index	35%[14]	
	Total	45%	$6,277,100
	Grand Total	**100%**	**$13,838,00**

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. I am accepting the Company's Incentive Compensation related to Safety and Operational Goals totaling $3,459,500 plus $6,227,100 or $9,686,600. I believe these type of incentives provide for ratepayer and customer oriented benefits in the areas of safety, reliability (outages) and overall operational metrics which may include customer relationships and satisfaction. I am recommending disallowance of Incentive Compensation related to Financial Metrics of $4,151,400. I believe these types of incentives do not correlate to ratepayer benefits but rather believe the Company and its shareholders aligning financial goals, increasing earnings per share, income growth and overall financial performance. These types of incentives should be funding by Company shareholders and not the ratepayers.

My adjustment is shown on my Exhibit DM-13.

Q. WHAT IS YOUR NEXT ADJUSTMENT TO THE COMPANY'S PAYROLL INCREASE?

A. My next adjustment to the Company's Incentive Compensations costs that have been allocated from the FirstEnergy Service Company to the FirstEnergy Companies of $15,813,792 related to the STIP and $8,629,446 related to the LTIP.

Q. WHAT IS THE COMPANY'S STIP?

A. The Company's STIP provides incentive awards to employees of FirstEnergy Corp. whose contributions support the successful achievement of Financial and Operational Key Performance Indicators (KPIs). STIP awards are cash-based awards based upon the terms and conditions of the FirstEnergy Corp. 2020 Incentive Compensation Plan (Incentive Plan) which was approved by FirstEnergy's shareholders. (OCA-Set-IV-4).

[14] SAIDI, TCF, ECR Score, Environmental Excursions, and NOV's, and Equivalent Forced Outage Rate

Q. WHAT IS YOUR ADJUSTMENT TO THE COMPANY'S STIP COSTS?

A. As I allowed costs related to ratepayer benefits and customer-oriented benefits with respect to the Company's Incentive Compensation costs of $13,838,000, I am using the same allowable costs to calculate the recovery from ratepayers of $15,813,792. Using the Company's performance metrics described in OCA Set XII-4, I am recommending $4,744,138 related to Financial Metrics (30%) be disallowed as stated previously, I believe these types of incentives do not correlate to ratepayer benefits but rather believe the Company and its shareholders aligning financial goals, increasing earnings per share, income growth and overall financial performance. These types of incentives should be funding by Company shareholders and not the ratepayers. I am accepting the Company's Incentive Compensation related to Safety and Operational Goals totaling $3,953,448 plus $7,179,462 or $11,132,910. I believe these type of incentives provide for ratepayer and customer oriented benefits in the areas of safety, reliability (outages) and overall operational metrics which may include customer relationships and satisfaction. My adjustments are shown on my Exhibit DM-13.

Q. WHAT IS THE COMPANY'S LTIP?

A. The Company's LTIP is designed to link a portion of an executive's compensation to the interests of shareholders. Executives hired into the executive group after March 1 are eligible for Performance Adjusted RSU (restricted stock units) grants in the current year. Executives hired into the executive group after March 1 of the current year will be eligible for the grants in the following year, provided they continue to meet the eligibility requirements and the annual grants are approved by the Compensation Committee of the Board of Directors. (OCA-Set-IV-4).

Q. WHAT IS YOUR ADJUSTMENT TO THE COMPANY'S LTIP?

A. I am recommending disallowance of these costs for ratemaking purposes. At first glance, these incentive type costs do not appear to be customer oriented related costs, or costs that benefits ratepayers in the provision of electric utility services. These types of costs seem to benefit shareholders in the areas of financial performance, increasing shareholder return (earnings per share, stock appreciation, and dividend increases) which clearly benefits the interests of shareholders of the Company. These are not the sort of expenditures ratepayers

should be required to pay as these types of costs do not provide any customer service, safety, reliability or areas of customer satisfaction. These LTIP costs provide for stock units to be awarded to the executives of the Company for the benefit and the interests of its shareholders. Therefore, I am recommending disallowance of $8,629,446.

Q. WHAT IS THE IMPACT OF YOUR ADJUSTMENTS TO THE COMPANY'S PROPOSED PAYROLL INCREASE INCLUDING INCENTIVE COMPENSATION?

A. My adjustments reduce the Company's Payroll Increase by $27,899,845 and is shown on my Exhibit DM-13.

Q. HAVE YOU ALLOCATED YOUR ADJUSTMENTS TO THE COMPANY'S PAYROLL INCREASE BY ACCOUNT CATEGORIES?

A. My adjustments to the Company's Payroll are shown on my Exhibit DM-4 related to the Incentive Compensation of FirstEnergy SC employees, FirstEnergy employees and my recommended vacancy rate adjustment. The supporting calculations are shown on my Exhibit DM-13. I have addressed these total adjustments on my Exhibit DM-4 – the Company's Income Statement.

c. Distribution Expense

Q. WHAT HAS THE COMPANY PROPOSE WITH RESPECT TO ITS DISTRIBUTION EXPENSES?

A. The Company has proposed a Distribution Expense of $424,195,000 as shown on FE PA Exhibit PML-1 page 40 of 63 (Adjustment IS-5). The breakdown of these adjustments are as follows:

Budgeted Amount	$319,523,000
Payroll Adjustments:	
FirstEnergy	$ 1,124,000
FirstEnergy SC	$ 61,000
Storm Expense	$ 5,171,000
Vegetation Management	$ 92,846,000

Inspection & Maintenance of OH Line	$ 6,007,000[15]
Amortization of Debt	$ 271,000
Allocation to NY	($ 808,000)
Total	$424,195,000

I will address each of these adjustments below. I am accepting the Company's adjustments related to the Amortization of Debt of $271,000 and the allocation to the NY jurisdiction of ($808,000).

1. <u>Payroll Expenses</u> (FirstEnergy and FirstEnergy Service Company)

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS PAYROLL EXPENSE FOR ITS DISTRIBUTION EXPENSE?

A. The Company has proposed $1,124,000 of additional payroll expense for its Distribution Operations. The Company has also proposed $61,000 of additional payroll expense for the Company's FirstEnergy Service Company employees. The breakdown and description of these adjustments are outlined in my section c-1 of my testimony and shown on my Exhibit DM-13.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PAYROLL EXPENSE RELATED TO DISTRIBUTION?

A. As I testified to and outlined my reasoning in Section c-1 above, I am incorporating a vacancy rate ratio adjustment, and adjustments to the Company's Incentive Compensation related to the FirstEnergy Company employees and to the FirstEnergy Service Company employees. These are shown on my Exhibit DM-13.

[15] In response to OCA Set IV-32, the Company stated that the O&M Expense related to the I&M Program was 46 million but has not included these adjustments in its revenue requirement schedules.

2. Storm Expenses (Adjustment IS-5)

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO STORM EXPENSE?

A. As shown on Company Exhibit FE PA PML-1 page 40 and 41 of 63, the Company has proposed an increase of $5,171,000 related to the recovery of storm damage to reflect a five-year average of actual storm costs, excluding extraordinary storm costs. The Company calculated the adjustment by taking the 2019-2023 storm costs totaling $264,012,000 and dividing that balance by five-years to arrive at an average balance of $52,802,000. The Company then subtracted the storm expenses per budget of $47,632,000 to arrive at an adjustment to storm expense related to ongoing storm activity through the storm reserve of $5,171,000. (OCA Set-IV-33). The Company has proposed to continue the recovery of storm damage costs, excluding expenses related to damage from extraordinary storm events through the storm reserve accounts. (Statement No. 3 at 25). The Company has proposed to adjust the storm reserve revenue included in base rates to reflect the updated historical five-year average of actual storm expenses (Statement No. 3 at 25).

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S PROPOSED STORM EXPENSE INCREASE OF $5,171,000?

A. The Company is proposing to increase its storm reserve activity by $5,171,000 by updating its 5-year average. The balances in each of the Company's rate districts are as follows:

Rate District	5-Year Avg. Balance	Storm Expense Budget	Adjustment
Met-Ed	$25,319,000	$23,431,000	$1,887,000
Penelec	$10,954,000	$10,657,000	$297,000
Penn Power	$3,215,000	$2,072,000	$1,142,000
West Penn	$13,315,000	$11,471,000	$1,844,000
Total	**$52,802,000**	**$47,632,000**	**$5,171,000**

I am accepting the Company's updated five-year average to compute the Company's Storm Expense balance in base rates, as shown in the Company's adjustment to its Distribution Storm Expense update. I am also recommending that this update five-year average be adjusted by OCA witness Mr. Konidena's calculation of the Company's SAIFI

benchmark metrics of 21.3%, consistent with the discussion above as to the Company's poor reliability metrics in this area. This reduces the Company's five-year average by $1,101,423 and provided for an annual level of $4,069,577. My adjustment is shown on my Exhibit DM-14.

Q. DO YOU BELIEVE THE COMPANY'S STORM RESERVE ACCOUNT MECHANISM SHOULD CONTINUE?

A. No. As I stated previously, I am recommending the Company's Storm Reserve account not continue as proposed by the Company. I am accepting the Company's update to its Storm costs budget to set a certain level of Storm costs to be recovered annually based upon the Company's actual incurred Storm costs in the past five years.

3. <u>Vegetation Management</u> (Adjustment IS-5)

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS VEGETATION MANAGEMENT COSTS INCLUDED IN THIS PROCEEDING?

A. The Company has proposed inclusion of $92,846,000 of vegetation management costs to be recovered annually. (FE PA Exhibit PML-1 page 40 of 63 Adjustment IS-5). According to Company witness Mr. Smith vegetation management is critical to any utility's provision of safe and reliable service. The Company's current vegetation management program requires maintenance on a cycle basis during which the Company performs vegetation management along the distribution clearing zone. (Statement No. 2 at 18). The distribution clearing zone is a corridor measured at fifteen feet on either side of the pole line or to the established large tree edge. Vertically, the corridor is measured to fifteen feet above the highest conductor attached to the pole or structure. (Statement No. 2 at 18). The Company's goal is to obtain clearance for the entire cycle. If the cycle is not attainable, there must be twelve feet or clearance around the distribution conductors. (Statement No. 2 at 18). The Company stated that it currently spends approximately $100 million per year on its vegetation management program in Pennsylvania. (Statement No. 2 at 18).

Q. DOES THE COMPANY MAINTAIN A VEGETATIVE MANAGEMENT PLAN?

A. In addition to Mr. Smith's testimony regarding vegetation management above, the Company utilized the imminent threat procedure when any safety or reliability issues requiring immediate response is identified. (OCA-Set-IV-10). When identified, the contractor shall notify the Company's representative and contractor supervision immediately upon becoming aware of vegetation conditions that present an imminent threat to the Company's electric facilities. An imminent threat is a vegetation condition that is likely to cause a fault at any moment.

Q. HAS THE COMPANY PROPOSED TO ENHANCE ITS VEGETATION MANAGEMENT PROGRAM?

A. Yes. The Company has proposed a ten-year enhanced vegetation management program which will focus on removing on-and-off corridor trees, removing overhang, and controlling brush in the distribution clearing zone in a more proactive manner beyond the current program in an effort to reduce tree caused outages, reduce outage restoration time, and to reduce future maintenance costs. The enhanced program would encompass two full cycles to enhance vegetation management beyond the minimum regulatory commitments[16] and would include the following:

- Removal of priority trees
- Removal of on-corridor incompatible trees and brush
- Removal of vegetation overhanging the corridor
- Widening (establish a standard width for all Pennsylvania distribution circuits)

(Statement No. 2 at 19-20).

Q. WHAT COSTS DID THE COMPANY PROVIDE REGARDING ITS HISTORIC FIVE-YEAR COSTS RELATED TO VEGETATION MANANGEMENT

A. The Company provided the following historic O&M costs for the five-year period (OCA-Set-IV-10):

2019	$38,455,690	
2020	$44,246,865	15.05% increase over 2019

[16] Response to OCA-Set-IV-10- The minimum regulatory required budget for the test year is $113,250,000.

2021	$59,811,281	35.18% increase over 2020
2022	$125,298,815	109.48% increase over 2021
2023	$59,597,367	-52.43% decrease over 2022

The Company stated that as of June 16, 2021, the Company changed its FirstEnergy accounting practices in that all standard maintenance activities are now accounted for as O&M. (OCA Set-IV-10).

Q. WHAT COSTS ARE ALREADY INCLUDED IN THE COMPANY'S MINIMUM REGULATORY REQUIRED BUDGET ?

A. The Company has provided a total budget of $113,250,000 as the costs that include the minimum regulatory required budget as the balance needed to achieve the regulatory requirements as set forth in 52 Pa. Code § 57.198 (n) (1) and as defined in the Company's approved Biennial Inspection, Maintenance, Repair and Replacement Plan. The Company has proposed to adjust the Minimum Regulatory Required budget from $113,250,000 in Year 1 of the program to $147,765,563 in Year 10 of the program.

Q. WHAT IS YOUR RESPONSE?

A. As more fully addressed in OCA witness Mr. Konidena's testimony, he is recommending that the Company file an annual report to specifically track vegetation expenses and that the results be reviewed after a four-year period. As more fully explained in Mr. Konidena's testimony, he is not accepting the Company's ten-year plan as proposed by the Company.

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S PROPOSED COSTS RELATED TO ITS VEGETATION MANAGEMENT?

A. I am recommending that the Company be allowed to recover 50% of its proposed $92,846,000 expense related to Vegetation Management or an annual recovery of $46,423,000.

Q. WHY IS A 50% RECOVERY APPROPRIATE?

A. In response to OCA-Set-IV-10, the Company provided five-years of actual vegetation management costs for 2019-2023, and these variances range from a high of $125,298,815 to a low of $38,455,690 in 2019. in 2023. These costs have fluctuated from year to year. As more fully addressed and explained in Mr. Konidena's testimony, the Company's

current level of spending in this area has had little effect as to improving its reliability numbers or decreasing the frequency of outages. As such, Mr. Konidena is recommending that the Company study other solutions to its poor reliability performance, such as batteries and undergrounding of troubled circuits. As such, the Company's proposed additional spending of $92,846,000 is speculative as to increasing reliability and reducing outages based upon what its past performance has been. Increasing the vegetation management costs may not provide the reliability performance the Company is proposing to achieve. Given that the Company already has $113,250,000 in its budget for its minimum regulatory requirement, the additional $92,846,000 may not provide any more meaningful results. My adjustment is shown on my Exhibit DM-14.

4. <u>Inspection and Maintenance of Overhead (OH) Lines</u> (Adjustment IS-5)

Q. WHAT HAS THE COMPANY PROPOSED REGARDING INSPECTION AND MAINTENANCE OF OH LINE CYCLE?

A. The Company has proposed to recover $41.6 million of Inspection and Maintenance (I&M) of OH Line costs for the 2025-2026 period. (OCA-Set IV-13); $12,007,000 in 2025 and an additional $29,603,000 in 2026. The Company has proposed recovering $12,008,000 in rate base recovery and (FE-PA Exhibit PML-1 page 6 of 63), and $6,007,000 of Distribution O&M recovery as shown on FE PA Exhibit PML-1 page 40 of 63 (Adjustment IS-5). According to Company witness Mr. Smith, recently filed changes to increase the frequency of certain of the Company's (I&M) programs are expected to result in increased capital expenditures. (Statement No. 2 at 15). Beginning in 2025, the Company will transition its distribution overhead circuit and overhead transformer I&M from five-years to two-years inspection cycles. As stated in my discussion to the rate base portion of this adjustment the Company stated that 52 Pa. Code § 57.198 (n) (4) requires "Distribution lines shall be inspected by ground patrol a minimum of once every 1-2 years" and 52 Pa. Code § 57.198 (n) (6) requires "Overhead distribution transformers shall be visually inspected as part of the distribution line inspection every 1-2 years." The Predecessor Companies were granted a waiver by the Commission in 2009 to continue with the then current program, which included five-year inspection cycles for overhead circuits and

overhead transformers. On December 28, 2023, the Commission's Bureau of Technical Utility Services (TUS) revoked that waiver and required the Company to implement a one-year to two-year inspection cycle length for distribution overhead circuits and distribution overhead transformers. (OCA-Set-IV-12). The Company stated that the purpose of the Inspection & Maintenance program is to identify and repair unsafe conditions that may adversely affect service reliability or system performance and to comply with the state regulatory agencies and the National Electrical Safety Code. (OCA Set IV-14). The Company has provided a breakdown of the capital costs as shown on OCA Set IV-13).

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. In response to OCA Set IV-32, the Company stated that its I&M O&M costs are $6,007,000 for the first two-year cycle (2025-2026) program. The Company stated that the annual recovery should be $6 million instead of $6.7 million, but the Company has not updated these expenses in its revenue requirement schedules. The Company stated that its I&M O&M costs are for inspection and corrective action. As I stated previously in my EPIS section regarding the Company's capitalized costs, the Company's second two-year cycle of $29.6 million in 2026 (OCA-Set-IV-13) is beyond the test year in this proceeding and should not be incorporated into this rate proceeding. The Company can in a future rate proceeding, request recovery of any additional I&M O&M costs related to its overhead lines cycle costs. I am recommending that these costs be amortized over the same period as I am recommending for rate case expenses, which is 5.3 years. This adjustment reduces the annual amount by $4,874,925 and an annual recovery of $1,133,396. (Exhibit DM-14).

Q. WHAT ARE YOUR TOTAL DISTRIBUTION EXPENSE ADJUSTMENTS?

A. My total Distribution Expense adjustments result in a reduction of $52,398,027 and is shown on my Schedule DM-14.

d. Customer Accounts Expense

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS CUSTOMER ACCOUNTS EXPENSE?

A. As shown on Company Exhibit FE PA PML-1 page 42 of 63, the Company proposed a balance of $60,331,000[17] related to its Customer Accounts Expense. The development of these adjustments are as follows:

Budgeted Amount	$30,233,000
Payroll Adjustments:	
FirstEnergy	$ 37,000
FirstEnergy SC	$ 23,000
Uncollectible Accounts	$17,500,000
Additional Customers	$ 14,000
Interest on Customer Deposits	$ 7,278,000
Allocation to NY	($ 57,000)
Customer Credit Card Payment	$ 5,208,000
Total	$60,331,000

I will address each of these adjustments below. I am accepting the Company's adjustments related to the Interest on Customer Deposits of $7,278,000, the allocation to the NY jurisdiction of ($57,000) and the additional customers of $14,000.

1. Payroll Expense - FirstEnergy and FirstEnergy Service Company

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS SALARY AND WAGES FOR ITS CUSTOMER ACCOUNTS EXPENSE?

A. The Company has proposed $37,000 of additional payroll expense for its Customer Accounts Operations. The Company has also proposed $23,000 of additional payroll expense for the Company's FirstEnergy Service Company employees. The breakdown and description of these adjustments are outlined in my section c-1 of my testimony and shown on my Exhibit DM-13.

[17] Differences due to rounding.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PAYROLL EXPENSE RELATED TO DISTRISBUTION?

A. As I testified to and outlined my reasoning in Section c-1 above, I am incorporating a vacancy rate ratio adjustment, and adjustments to the Company's Incentive Compensation related to the FirstEnergy Company employees and to the FirstEnergy Service Company employees. These are shown on my Exhibit DM-13.

2. Uncollectible Accounts - Adjustment IS-6 Supporting Schedule 1

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS UNCOLLECTIBLE ACCOUNTS?

A. As shown on Company Exhibit FE PA PML-1 page 43 of 63, the Company proposed an additional Uncollectible Accounts balance of $17,595,000. According to Company witness Mr. Jones, Chapter 14 of the Public Utility Code which governs utilities' collection procedures for residential customers, is scheduled to sunset in December 2024, and as a result a number of changes to the collection procedures outlined in Chapter 14 have been postponed by the legislature (Statement No. 8 at 12). Because the test year ending December 31, 2025, will be used to project the Company's uncollectible accounts expense, the Company asserts that these proposed changes, if accepted, could have a significant impact on these calculations. The Uncollectible Accounts expense for the total FirstEnergy Company totals $60,925,000 which includes forecasted impacts resulting from increased revenue projections and Chapter 14 collections and rule changes. (Statement No. 8 at 12, and FE PA Exhibit No. MAJ-1).

Q. WHAT IS THE BREAKDOWN OF THIS UNCOLLECTIBLE ACCOUNTS EXPENSE?

A. The first component, revenue impact, is calculated using current rates and the linear increases associated with them resulting in an additional risk of $3.3 million of increased uncollectible account expense (FE PA Exhibit No. MAJ-1 page 1). The second component – arrears risk associated with the potential Chapter 14 collection rules, if implemented, is also factored into the overall uncollectible expense which total $15.9 million (FE-PA Exhibit No. MAJ-1 page1). These collection rule changes include (1) allowing additional

PUC approved installment plans and increasing the length of installment agreements for customers who seek PUC installment agreements; (2) extending the disconnection notice window; (3) expanded medical certificate options including lengthening medical certificates from 30 days to 60 days and allowing more certifications that are currently allowed in a rolling 12 months; (4) summer moratoriums for low-income customers and; (5) elimination of security deposits. To the extent that the General Assembly does not adopt the proposed changes to Chapter 14 of the Public Utility Code which form the basis of these adjustments, the Company will accordingly update its uncollectible expense claim for the FPFTY. (Statement No. 8 at 13).

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S UNCOLLECTIBLE ACCOUNTS?

A. As more fully discussed by OCA witness Mr. Roger Colton, he has recommended disallowing these costs in rates. Mr. Colton stated among other things, that this adjustment of the Company's level of uncollectible expense based upon the assessment of the impact of potential changes in Chapter 14 are speculative in nature in that modifications to Chapter 14 have not occurred and cannot be projected at this point. Mr. Colton stated that it is premature to predict what impact any changes to Chapter 14 may have on the Company's rates. My adjustment is shown on my Exhibit DM-15. All of these proposed increases should be disallowed.

3. <u>Credit Card Payment Processing Fee Adjustment -</u> <u>Adjustment IS-6)</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS CREDIT CARD PAYMENT PROCESSING FEE ADJUSTMENT?

A. The Company has proposed a Credit Card Payment Processing Fee of $5,208,000 as shown on Company FE PA Exhibit PML-1 page 42 of 63. According to Mr. Jones, one-time credit card payments are currently assessed a fee by the vendor, which fees are directly passed to the customer making a payment by credit card. (Statement No. 8 at 7). The Company plans to change the collection of fees for credit card payments and allowing customers to pay via devices connected to the internet and the use of debit and credit cards to pay their bills through mobile or online applications. If these fees were included in

regulatory recovery, the customer would no longer be using the cost of the transaction to determine their path for payment and will choose based upon their convenience preference. (Statement No. 8 at 7). The Company has proposed to recover these costs from the residential class customers only, as these are the customers who will be benefiting from the change. (Statement No. 8 at 9).

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. As per the recommendation of OCA witness Ms. Barbara Alexander, I am accepting the credit card payments proposal totaling $5,208,000. According to Ms. Alexander, she supported the inclusion in rates of reasonable costs to process customer payments of all types. She stated that these costs appear reasonable for inclusion in rates. My balance is shown on my Exhibit DM-15.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S ADDITIONAL UNCOLLECTIBLE ACCOUNTS EXPENSE BALANCE?

A. Utilizing the Company's Uncollectible Account ratio of 1.100121%[18] and multiplying that amount by my recommended revenue requirement adjustment of $16,910,605, I arrive at an additional uncollectible account expense of $186,037.

Q. WHAT ARE YOUR TOTAL ADJUSTMENTS TO THE COMPANY'S CUSTOMER ACCOUNTS EXPENSE?

A. My total adjustments to the Company's Customer Accounts Expense is a reduction of $15,901,580, plus the additional uncollectible accounts expense adjustment of $186,037 and is shown on my Exhibit DM-15.

[18] Total proposed additional uncollectible accounts of $5,528,000 divided by the Company's proposed revenue requirement increase of $502,400,000 equals 1.100121%.

e. Customer Service & Information Expense

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS CUSTOMER SERVICE & INFORMATION EXPENSE?

A. The Company proposed a balance of $29,246,000 as shown on Company FE PA Exhibit PML-1 page 46 of 63 (Adjustment IS-7). The breakdown of this balance is as below.

Budgeted Amount	$20,979,000
Payroll – FirstEnergy	$ 20,000
Payroll- FirstEnergy SC	$ 38,000
Allocation to NY	($ 34,000)
Low Income Outreach	$ 763,000
Electric Vehicle Rebate	$ 7,480,000
Total	$29,246,000

I will address each of these adjustments below. I am accepting the Company's adjustments related to the allocation to the NY jurisdiction of ($34,000).

1. Payroll Expense - FirstEnergy and FirstEnergy Service Company

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS PAYROLL EXPENSE?

A. The Company has proposed $20,000 of additional payroll expense for its Customer Service and Information Operations. The Company has also proposed $38,000 of additional payroll expense for the Company's FirstEnergy Service Company employees. The breakdown and description of these adjustments are outlined in my section c-1 of my testimony and shown on my Exhibit DM-13.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED PAYROLL EXPENSE?

A. As I testified to and outlined my reasoning in Section c-1 above, I am incorporating a vacancy rate ratio adjustment, and adjustments to the Company's Incentive Compensation related to the FirstEnergy Company employees and to the FirstEnergy Service Company employees. These are shown on my Exhibit DM-13.

2. Low Income Outreach Program

Q. WHAT HAS THE COMPANY PROPOSED REGARDING ITS LOW INCOME OUTREACH PROGRAM COSTS?

A. The Company has proposed to include $763,000 related to a new initiative that the Company is proposing to further assist low-income customers. The Company proposed to create an Energy Assistance Outreach Team (EAOT), whose purpose is to increase awareness of, and participating in, energy assistance programs available to low-income customers throughout the Company's service territory. (Statement No. 8 at 9). The dedicated team would be responsible for creating educational resources, tools and technology to reduce or eliminate barriers to program participation. The EAOT would engage with local charity-based organizations to gather information on challenges that reduce program participation. The EAOT would create a presence in the community by hosting or participating in local energy assistance fairs. (Statement No. 8 at 9). The EAOT would provide support to social service agencies when they have questions or special situations. The Company stated that twenty-four percent of the Company's residential customers are estimated to be low-income and only one quarter of those low-income customers participate in available low-income programs. The goal is to connect customers in need with resources that are available to them. A centralized dedicated team to assist customers with information about enrollment in all assistance programs will benefit customers by helping eligible customers receive assistance to pay their electric bill. (Statement No. 8 at 10).

Q. HAS THE COMPANY PROVIDED A BREAKDOWN OF THESE COSTS?

A. Yes, in Statement No. 8 at 11 and in response to OCA-Set-IV-64 the Company provided a breakdown of these costs as follows:

Staff -	$667,520
Materials -	$ 70,000
Travel -	$ 25,000
Total	$762,520

The Company stated that the Materials are comprised of brochures, printed documents for events/handouts, social media ads, paid searches, etc. The travel portion will be used to

attend community events and meet with community-based organizations throughout the service territories. The $667,520 portion is to hired seven full-time staff dedicated to the EAOT once the necessary approvals have been obtained.

Q. WHAT IS YOUR RECOMMENDATION?

A. Based upon the recommendation of OCA witness Mr. Roger Colton, I am disallowing these costs. These costs that purportedly represent benefits to low-income customers appear to be nothing more than a vacancy type issue and not a requirement to construct a team of individuals on providing outreach materials in other languages, and, the Company has identified only Spanish as the language to be included in this initiative. This is shown on my Exhibit DM-16. As I stated previously in my testimony, the fact that the merger settlement indicated that outreach is one of the affirmative public benefits. If that is the case, then this proposed program should be paid for by merger synergies (i.e. shareholders) and not ratepayers.

3. <u>Electric Vehicle Rebate Program Adjustment</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS ELECTRIC VEHICLE REBATE PROGRAM?

A. The Company has proposed to include $7,480,000 related to education to customers about electric vehicles (EV) and encourage them to adopt EV's by providing incentives and expanding access to EV charging in the Company's service territory. (Statement No. 8 at 13). The Company's EV Pilot recognizes that electrification of vehicles will play a significant role in the future of transportation and is proposing the EV Pilot to help educate its customers and improve accessibility to that transition. (Statement No. 8 at 13). The EV Pilot contains two programs; (1) an education and awareness program ($3,480,000) and (2) an incentive/rebate program ($4,000,000) (OCA Set IV-66 and 67).

Q. WHAT HAS THE COMPANY STATED WITH RESPECT TO THESE COSTS?

A. The Company stated that the EV education platform ($400,000) will allow customers to learn more about EVs, compare EV models, and see available incentives and rebates that

are offered by the Company and governmental agencies. The Company is seeking to recover future costs of this service as well as expand it to include resource specific to commercial and municipal fleet electrification. (Statement No. 8 at 14). The Company is proposing a grant assistance program ($980,000) that will provide financial support to local governmental entities, school boards, transit authorities, and qualifying non-profit organizations for professional grant application services to secure government funding. (grant writing, submission, post award reporting and compliance monitoring). The Company is proposing to provide a fleet advisory program ($1,000,000) to aid commercial and municipal fleets with their fleet electrification transition. These include feasibility studies, business cases, risk mitigation, cost-benefit analysis, road-mapping and procurement planning. (Statement No. 8 at 15). The Company is proposing a dealership tool-kit ($320,000) that will fund kiosks located at dealerships with the service territory that will provide remote concierge services to help educate customers prior to, during and after their EV purchases. (Statement No. 8 at 15). Other costs are for Program Promotion and Marketing ($630,000) and a full-time employee ($150,000). (OCA-Set-IV-66).

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO INCENTIVE REBATES?

A. The Company is proposing to include $2,000,000 related to residential rebates which include administrative costs and $2,000,000 related to non-residential programs (Level 2 Charging Rebates, DCFC Fast Charging rebates and administrative costs). (OCA-Set-IV-67). The residential component will offer a rebate for the installation of level 2 electric vehicle supply equipment by a licensed electrician. The non-residential component will be available to government agencies, non-profit entities, workplaces, multi-unit dwellings, and commercial public available locations. (Statement No. 8 at 15-16).

Q. HOW WILL THE COMPANY RECOVER THESE EV COSTS?

A. The Company has proposed to track the expenses by revenue classes and will be charged directly to the revenue classes benefitting from the programs and recovered through base rates. Allocation across rate districts will be based upon each rate district's proportion of total customers by class at the Company's level. (Statement No. 8 at 16).

Q. WHAT IS YOUR RECOMMENDATION?

A. Based upon the recommendation of OCA witness Ms. Barbara Alexander, I am disallowing these costs for ratemaking purposes, but for the $66,671 related to EV Education Platform which will allow customers to learn more about EVs, compare EV models, and see available incentives and rebates that are offered by the Company and governmental agencies. . As more fully addressed in Ms. Alexander's testimony, she recommended that such remaining EV costs should not be collected from utility ratepayers and the proposed EV investments should not be approved. Ms. Alexander stated that given the extensive federal funds available for these purposes, ratepayer funding should not be used for EV programs. My recommendation is shown on my Exhibit DM-16.

Q. WHAT ARE YOUR TOTAL ADJUSTMENTS TO THE COMPANY'S CUSTOMER SERVICE AND INFORMATION EXPENSE?

A. My total adjustments to the Company's Customer Service and Information Expense is a reduction of $8,176,329 and is shown on my Exhibit DM-16.

f. <u>Administrative & General (A&G) Expense</u>

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS ADMINISTRATIVE & GENERAL EXPENSES?

A. The Company proposed a budgeted balance of $181,772,000 as shown on Company FE PA Exhibit PML-1 page 47 of 63 (Adjustment IS-8). The breakdown of this balance is as below:

Budgeted Amount	$126,370,000
Payroll FirstEnergy	$ 20,000
Payroll FirstEnergy SC	$ 140,000
Pension Adjustment	$ 52,191,000
OPEB Adjustment	$ 2,213,000
Employee Benefits	$ 300,000
Allocation to NY	($ 295,000)
Rate Case Expense	$ 833,000
Total	$181,772,000

I will address each of these adjustments below. I am accepting the Company's allocation to the NY jurisdiction of ($295,000).

1. **Payroll Expense -** FirstEnergy and FirstEnergy Service Company

Q. WHAT HAS THE COMPANY PROPOSED RELATED TO ITS PAYROLL EXPENSE?

A. The Company has proposed $20,000 of additional payroll expense for its A&G operations. The Company has also proposed $140,000 of additional payroll expense for the Company's FirstEnergy Service Company employees. The breakdown and description of these adjustments are outlined in my section c-1 of my testimony and shown on my Exhibit DM-13.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S PROPOSED PAYROLL EXPENSE?

A. As I testified to and outlined my reasoning in Section c-1 above, I am incorporating a vacancy rate ratio adjustment, and adjustments to the Company's Incentive Compensation related to the FirstEnergy Company employees and to the FirstEnergy Service Company employees. These are shown on my Exhibit DM-13.

2. **Pension Adjustment**

Q. WHAT HAS THE COMPANY PROPOSED WITH REGARD TO ITS PENSION EXPENSE?

A. The Company has included an adjustment to its Pension Expense of $52,191,000 as shown on Company FE PA Exhibit PML-1 page 47 of 63 (Adjustment IS-8). The Company developed this Pension Expense adjustment by starting with a balance of $23,903,000 and reducing this balance by $19,130,000 related to Pension before Delayed Recognition, and then adding $47,419,000 to include the Delayed Recognition of actuarial gains/losses.

Q. HOW DID THE COMPANY CALCULATE THE PENSION ADJUSTMENT OF $52,191,000?

A. As explained by Company witness Ms. Ashton, for ratemaking purposes, the Company has removed the effect of mark-to-market adjustment from GAAP pension and OPEB expense and replaced it with actuarial gains or losses calculated under the delayed recognition methodology. (Statement No. 4 at 11). Because the Company does not budget for the mark-to-market adjustment, removing the effect of this mark-to-market adjustment is zero in both the fully projected future test year and the future test year. (Statement No. 4 at 11). Ms. Ashton stated that the proposed ratemaking treatment for its Pension Expense is a departure from the long-standing cash recovery methodology used in Pennsylvania. Ms. Ashton stated that the return on investments in the pension and OPEB trusts are recorded as non-cash income, and in return its ROE increases. When there are downturns in the market, there is a corresponding decrease to the Company's income and ROE. (Statement No. 4 at 12).

Q. HAS THE COMPANY IDENTIFIED BENEFITS TO RATEPAYERS WITH RESPECT TO THE PROPOSED CHANGE TO ITS PENSION EXPENSE?

A. Ms. Ashton stated that under the proposed delayed recognition methodology book costs would better align with rate recovery and the income benefits that the Company enjoys would also be a benefit to customers. Book costs are reduced, and the pension expense is offset by increased earnings from larger pension trust assets. (Statement No. 4 at 13). Ms. Ashton stated that when the market performs well, customers will benefit from lower pension/OPEB costs for ratemaking purposes. Future contributions to the pension/OPEB trusts will immediately function to lower rather than increase the costs of these benefit programs. That is the earnings benefits from these investments would benefit both the Company and its customers. (Statement No. 4 at 14). Ms. Ashton stated that the immediate rate impact to customers due to the change in Pension/OPEB expense recovery is negligible and the difference in both methodologies amount to about $1 million higher. (Statement No. 4 at 15).

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S PENSION ADJUSTMENT?

A. In response to OCA Set IV-47, the Company provided five-year's worth of Pension adjustments that include the components used to calculate the Pension expenses. Using the actual Pension Expense (Credit) costs for the years 2021 through 2025 and normalizing these costs over a five-year period results in a balance of $7,889,116 or a reduction of $44,301,884 from the Company's proposed balance of $52,191,000. The Company's efforts to increase its pension plan over the past five-years to the Predecessor Companies from 2016 through 2018, in which the Company has benefitted from an increase in book earnings from these pension trust investments (Statement No. 4 at 13) should not fully fall on the ratepayers to fund these investments. A five-year historical average which includes projected 2024 and 2025 Pension expense is a reasonable approach in calculating costs prospectively. While the Company can account for its Pension costs under its proposed change in methodology, for ratemaking purposes, I am recommending a five-year normalization. As identified in response to OCA-Set-IV-47, Pension costs have varied from a credit of $29,075,361 in 2022 to an expense of $33,137,284 in 2023. Given these yearly variances, it is reasonable to normalize these costs to set rates in the FPFTY period. This reduces the Company's balance by $44,301,884. My adjustments are reflected in schedule DM-18.

3. <u>Other Post-Employment Benefits (OPEB)</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS OPEB EXPENSES?

A. The Company has included an adjustment to its OPEB Expense of $2,213,000 as shown on Company FE PA Exhibit PML-1 page 47 of 63 (Adjustment IS-8). The Company developed this OPEB Expense adjustment by starting with a balance of $3,182,000 and reducing this balance by $3,440,000 related to OPEB expense before Delayed Recognition, and then adding $2,471,000 to include the Delayed Recognition of actuarial gains/losses.

Q. HOW DID THE COMPANY CALCULATE THE PENSION ADJUSTMENT OF $2,471,000?

A. As previously explained by Company witness Ms. Ashton, for ratemaking purposes, the Company has removed the effect of mark-to-market adjustment from GAAP pension and OPEB expense and replaced it with actuarial gains or losses calculated under the delayed recognition methodology. (Statement No. 4 at 11). Because the Company does not budget for the mark-to-market adjustment, removing the effect of this mark-to-market adjustment is zero in both the fully projected future test year and the future test year. (Statement No. 4 at 11). Ms. Ashton stated that the proposed ratemaking treatment for its OPEB Expense is a departure from the long-standing cash recovery methodology used in Pennsylvania. (Statement No. 4 at 12). Ms. Ashton stated that the return on investments in the pension and OPEB trusts are recorded as non-cash income, and in return its ROE increases. When there are downturns in the market, there is a corresponding decrease to the Company's income and ROE. (Statement No. 4 at 12).

Q. HAS THE COMPANY IDENTIFIED BENEFITS TO RATEPAYERS WITH RESPECT TO THE PROPOSED CHANGE TO ITS PENSION EXPENSE?

A. Ms. Ashton stated that under the proposed delayed recognition methodology book costs would better align with rate recovery and the income benefits that the Company enjoys would also be a benefit to customers. Ms. Ashton stated that when the market performs well customers will benefit from lower pension/OPEB costs for ratemaking purposes. (Statement No. 4 at 14). Future contributions to the pension/OPEB trusts will immediately function to lower rather than increase the costs of these benefit programs. That is the earnings benefits from these investments would benefit both the Company and its customers. (Statement No. 4 at 14). Ms. Ashton stated that the immediate rate impact to customers due to the change in Pension/OPEB expense recovery is negligible and the difference in both methodologies amount to about $1 million higher. (Statement No. 4 at 15).

Q. WHAT ARE YOUR ADJUSTING WITH RESPECT TO OPEB?

A. As stated in response to I&E RE-25, the Company stated that no cash payments were made to the OPEB plan for the ten years 2014-2023. The funding status at 2023 was $617,700 (I&E RE-26). The Company claimed that only the Service Cost component of OPEB expense was included in base rates. (I&E RE-28). I am adjusting the Company's OPEB costs by normalizing these costs based upon a five-year period from 2021 through 2025 in the same manner as I normalized the Company's Pension Expense. Normalizing these costs results in a balance of credit balance of $10,906,520/5 years or $2,181,404. This reduces the Company's OPEB costs from $2,213,000 to ($2,181,404) or a reduction of $4,394,404. While the Company can account for its Pension costs under its proposed change in methodology, for ratemaking purposes, I am recommending a five-year normalization. As identified in response to OCA-Set-IV-47, OPEB costs have consistently been credit amounts from a credit low of $969,004 to a credit high of $2,595,617 in 2021. Given these yearly variances, it is reasonable to normalize these costs to set rates in the FPFTY period. This reduces the Company's balance by $4,394,404 My adjustments are reflected in schedule DM-18.

4. <u>Employee Benefits Expense</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS EMPLOYEE EXPENSES?

A. As shown on Company Exhibit FE PA PML-1 page 47 of 63, the Company proposed a balance of $300,000. These costs represent adjustments to the following:

Workers Compensation	- $1,154,000
Pension Costs	- $34,549,000
OPEB Costs	-($2,017,000)
Medical Insurance	- $31,803,000
Savings Plans	-$6,635,000
Other	-$4,378,000

The Company divided the total benefits of $$78,500,000 by the proposed total Payroll expense of $277,544,000 to arrive at a benefits rate of 28.28%. The Company included a

Payroll adjustment of $2,923,000 to annualize Payroll and multiplied that amount by the benefits rate for each of the FE rate districts to arrive at a benefit adjustment of $695,000. The Company then allocated this balance by the average O&M allocation percentage of 43.16% to arrive at a balance of $300,000.

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S $300,000 EXPENSE ADJUSTMENT TO EMPLOYEE BENEFITS EXPENSES?

A. I averaged out the Company's Workers Compensation balance over a three-year period (2023-2025); adjusted the Pension Expense related to my recommended balance of $7,889,116; adjustment the OPEB Expense related to my recommended balance of ($2,181,000); averaged out Medical Insurance over a three-year period; accepted the Company's Savings Plans; and adjusted the Other Benefits costs to disallow Executive benefits of $129,000 and Restricted Stock of $1,062,000. (OCA Set-IV-37). Using the Company's FE-PA PML-1 page 48 (workpaper) and methodology, and calculating my adjustments through the Company's methodology, I arrive at a balance of $288,000, or a reduction of $12,000. (add more language here). My adjustment is shown on my Exhibit DM-18.

5. <u>Rate Case Expenses</u>

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO RATE CASE EXPENSES?

A. The Company has proposed a total rate case expense of $2,500,000 amortized over a three-year period or $833,000 annually. This is shown on Company Exhibit FE PA PML-1 page 49 of 63 (Adjustment IS-8 Supporting Schedule 2).

Q. WHAT ADJUSTMENTS DO YOU HAVE REGARDING THE COMPANY'S $833,000 RATE CASE EXPENSE RECOVERY?

A. The first adjustment is that I am adjusting the Company's rate case expense amortization period of 3 years. I believe that these costs should not be amortized, instead they should be normalized. The Commission routinely normalizes rate case expenses, and it looks to the historical filing frequency to determine the proper normalization period. As shown in

response to OCA SET IV-38, the Company has filed the following base rate case proceedings:

Met-Ed	1992
West Penn	1994
Met-Ed / Penelec	2006
Met-Ed / Penelec / Penn Power / West Penn	2014
Met-Ed / Penelec / Penn Power / West Penn	2016
FirstEnergy Companies	2024
Total Years	32 years
Number of Rate Case proceedings	6
Normalized period	5.33

Using the above data, normalizing these rate case costs based upon prior filings calculates to a normalized period of 5.33. As stated the Commission routinely normalizes, not amortizes rate case expense. It then looks to the historical filing frequency to determine the proper normalization period. I am extending the rate case normalization period to a 5.33 year normalization period, based upon the Company's historical rate case filings. A 5.33 year normalization period would result in an annual recovery balance of $471,698 ($2,500,000 / 5.33 years) a reduction of $361,302 from the Company proposed balance of $833,000. My adjustment is shown on my Exhibit DM-18.

6. DEI and ESG Costs

Q. HAS THE COMPANY PROVIDED COSTS RELATED TO DIVERSITY, EQUITY AND INCLUSION COSTS, (DEI) AND ENVIRONMENTAL SOCIAL AND GOVERNANCE (ESG) COSTS INCLUDED IN THE RATE FILING?

A. Yes, in response to OCA-Set-IV-7 and 8, the Company provided the level of expenses related to DEI and ESG costs. The Company included $514,685 of DEI costs and $1,321,221 of ESG costs, respectively. Company witness Mr. Wade Smith stated that DEI costs are core to building a strong culture, and having an inclusive culture is key to attracting and retaining the talent that we need. (Statement No. 2 at 4). The Company has

not addressed the need with respect to ESG costs but has provided the level of costs that are included in this proceeding of $1,321,392 as shown in the response to OCA-Set 4-8.

Q. WHAT HAS THE COMPANY STATED THESE COSTS REPRESENT?

A. With respect to the response to OCA-Set-XIV-16, DEI costs benefit ratepayers in the provision of utility services by:

- Having a diverse workforce that lives in the communities FE PA serves and better prepares FE PA to understand and provide services to it communities from utility services to community assistance. These costs provide charitable support to surrounding communities.
- Through its supplier diversity program, the Company contracts with local diverse businesses to help provide utility service, further enabling those businesses to thrive and give back to the local communities.
- Are consistent with the Company's DEI initiatives in Commission Statement of Policy at 52 Pa. Code §§ 69.801-809.

With respect to the response to OCA-XIV-17, ESG's approach is to pursue objectives and initiatives that positively impact stakeholders and help fulfill the shared vision for a more forward-looking and industry-leading company. The Company's success requires strong management and oversight of material ESG matters, as well as transparency and accountability regarding where improvements are needed. (i.e. building trust with stakeholders and customer engagement).

Q. WHAT IS YOUR RESPONSE?

A. I am recommending disallowance of the ESG costs in full and a cost sharing of the DEI costs for ratemaking purposes.

For DEI costs, I am following the OCA's policy lead that it has supported the Commission's Diversity Policy Statement and have only disallowed 67% (two-thirds) of these costs. In the OCA's view, these costs mostly benefit the Company but there are benefits that may flow to ratepayers and the community. However, the benefit is typically driven by corporate frameworks that are concerned with the promotion of fair treatment and participation of people who have been discriminated in the workplace. I do not see a nexus between DEI costs and customer oriented costs / ratepayer benefits as being 100%. These types of costs are generally geared toward corporate branding and morale boosting

within the organization and coming under compliance with respect to equal opportunity initiatives which have in in place for years. Corporations should have been incorporating these initiatives in the past without carving out specific tasks and additional costs and asking ratepayers to shoulder the costs. If FirstEnergy believes there is value in DEI, FirstEnergy should pay the bulk for these costs and thus, I have chosen to disallow 67% ($343,140) of the costs. This adjustment is shown on DM-18.

ESG costs are related to and akin to corporate social responsibility and are a function of philosophical or end-goals rather than customer oriented / ratepayer benefits. These types of costs encompass data and metrics needed to inform decision-making for companies and investors. I believe these costs are the responsibility of FirstEnergy and should not be recovered from ratepayers. These types of costs are related to overall company strategies, sustainability, human rights, and an eco-conscious business landscape. I do not see a nexus between ESG costs and ratepayer benefits. The Company has not provided any results with respect to incorporating these initiatives in this proceeding. As with DEI, if FirstEnergy believes there is value in ESG costs, FirstEnergy should pay for these costs.

With that, I am recommending disallowance of 67% DEI costs of $343,140 and all of the ESG costs of $1,321,221. This is shown on my Exhibit DM-18.

7. Economic Development

Q. WHAT HAS THE COMPANY INCLUDED WITH RESPECT TO ENCONOMIC DEVELOPMENT COSTS?

A. In response to OCA-Set-IV-9, the Company has included $25,317 of Economic Development costs in its FPFTY period. These costs are related but not limited to promotion and sales, sponsorships, economic development programs, conference, seminars, conventions and equipment acquisitions.

Q. WHAT ARE YOU ADJUSTING WITH RESPECT TO ECONOMIC DEVELOPMENT?

A. I am recommending disallowance of these costs because I do not believe these costs should be borne by ratepayers. These costs should be borne by local, municipal and state

organizations or the Company itself through shareholder money. It appears that these types of costs are related to regional and various local communities that may or may not be customers of the Company. I do not see the nexus between these costs and the provision of safe and reliable service to customers. If the Company wants to be good corporate citizens, then the shareholders should pay for these types of costs and should not require ratepayers to pay for them. My adjustment is shown on my Exhibit DM-18.

8. Workforce Development

Q. WHAT HAS THE COMPANY INCLUDED WITH RESPECT TO WORKFORCE DEVELOPMENT COSTS?

A. As shown in response to OCA-Set-IV-9, the Company has included $3,017,392 of Workforce Development costs in the FPFTY period.

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. I am recommending disallowance of these costs because I do not believe these costs should be borne by ratepayers. The Company provided a cost breakdown of the above expenses. These types of costs should be borne by local, municipal and state organizations or the Company itself through shareholder money. These types of costs include but are not limited to incentive compensation, association fees and dues, travel expense, on-site consultation /staff augmentation, payroll, and employee expenses. Workforce Development cost are related to all workforce employees including federal, state, local and municipal workforces. I do not believe these types of costs are customer oriented / ratepayer related costs that benefit the safety and reliability or service performance metrics in the provision of electric utility services. If FirstEnergy believes these types of costs do benefit ratepayers, then FirstEnergy should be shouldered in paying for these costs. My adjustment is shown on my Exhibit DM-18.

Q. WHAT ARE YOUR TOTAL ADJUSTMENTS TO THE COMPANY'S A&G COSTS?

A. My total adjustments to the Company's A&G costs is a reduction of $52,455,4399 as shown on my Exhibit DM-18.

E. DEPRECIATION EXPENSE

Q. WHAT DID THE COMPANY PROPOSE WITH RESPECT TO ITS DEPRECIATION EXPENSE?

A. The Company proposed a Depreciation Expense of $388,771,400 as shown on Company Exhibit FE PA PML-1 page 50 of 63 (Adjustment IS-9). The Company began with a depreciation balance of $316,738,000. To that balance the Company adjusted for cost of removal / salvage of ($55,952,000). The Company adjusted for the average cost of removal and salvage of ($4,781,400). The Company removed $80,000 related to the allocation to the NY jurisdiction. The balance for the FPFTY period is $388,771,400.

Q. DID THE COMPANY HAVE DEPRECIATION STUDIES PERFORMED FOR USE IN THIS RATE PROCEEDING?

A. Yes. According to Company Mr. Spanos, the Company has a depreciation study performed as of December 31, 2025, that calculated annual depreciation accruals related to electric plant as of December 31, 2025. (Statement No. 9 at 4) (FE PA Exhibit JJS-6).

Q. WHAT ARE YOUR RECOMMENDATIONS RELATED TO THE COMPANY'S DEPRECIATION EXPENSE?

A. I am relying on the recommendations of OCA witness Mr. David Garrett with respect to any changes to the Company's proposed Depreciation Expense balance. My only adjustments relate to my disallowance of certain plant that was included in the Company's EPIS balance, using Mr. Garrett's recommended Depreciation Rates.

Q. WHAT ARE YOUR ADJUSTMENTS TO THE COMPANY'S DEPRECIATION EXPENSE?

A. Since I removed costs related to Inspection and Maintenance expenditures of $12,008,000, I am removing the Depreciation Expenses of $99,792 (FE-PA Exhibit PML-1 page 12 of 63). I am also using Mr. Garrett's recommended overall depreciation expense adjustment of ($62,573,657) My total recommended adjustment including the adjustment related to my adjustment to the Company's Inspection and Maintenance costs of ($99,792 results in a balance of $62,672,849 . My adjustment is shown on my Exhibit DM-19.

F. AMORTIZATION EXPENSE

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS AMORTIZATION EXPENSE?

A. As shown on Company FE PA Exhibit PML-1 page 56 of 63 (Adjustment IS-10), the Company proposed an Amortization Expense of $125,940,000. The breakdown is as follows:

(BEGIN CONFIDENTIAL)

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

(END CONFIDENTIAL)

Total Amortization	**$125,940,000**[19]

I am accepting the Company's adjustments related to the elimination of certain riders, deferrals and deferred accretions and depreciation of $17,332,000. I will address each of the above Amortization adjustments below:

[19] Differences due to rounding issues.

1. Amortization of Storm Reserve Balance - $69,477,000

Q. WHAT HAS THE COMPANY PROPOSED TO INCLUDE WITH RESPECT TO THE AMORTIZATION OF STORM RESERVE BALANCE?

A. The Company has proposed to include and amortize the storm damage costs of $208,432,000 as reflected in the Company's Rate Base and recover the remaining costs through amortization over a three-year period, or $69,477,000 annually. (Statement No. 3 at 20). The Company booked a storm reserve balance of $208,432,000 which has been maintained in accordance with the terms and conditions of the Rate Districts' 2016 Settlement Agreement as of December 31, the HTY. (Statement No. 3 at 11). The Company calculated a balance of $189,488,000 through 2023 and included an additional $18,944,000 of 2024 storm reserve activity to arrive at a balance of $208,432,000. The Company stated that the 2015 actual balance of the storm reserve is the starting point for the calculation. (OCA Set IV-19).

Q. HAS THE COMPANY PROVIDED A DETAILED BREAKDOWN OF THESE COSTS?

A. In response to OCA-Set-IV-19, the Company provided a storm reserve balance roll-forward from 2015 through projected 2024. The Company stated that the HTY in FirstEnergy's Rate Districts' last base rate cases were the twelve months ending December 31, 2015, and is the 2015 balance of the storm reserve is the starting point for the calculation of the balance of $208,432,000.

Q. WAS A STORM BALANCE RESERVE ESTABLISHED IN PRIOR YEARS?

A. Yes, in the Company's 2014 base rate case proceedings[20] and as part of the Settlement, the Company established the following balances in order to fund the storm reserve account, representing five-years of historical expenses excluding damages from extraordinary storm events:

Met-Ed	$13,000,000
Penelec	$ 7,000,000

[20] Met-Ed R-2014-2428745; Penelec R-2014-2428743; Penn Power R-2014-2428744 and; West Penn R-2014-2428742.

Penn Power	$ 1,000,000
West Penn	$ 9,000,000
Total	**$30,000,000**

Q. DID THIS STORM RESERVE BALANCE CONTINUE IN THE COMPANY'S 2016 BASE RATE PETITION?

A. Yes. In the Company's 2016 base rate case proceedings [21] the Company agreed to continue to maintain the storm reserve account which began in the 2014 base rate proceeding in the at the levels above.

Q. ARE THE STORM RESERVE COST BALANCES ABOVE PRE-APPROVED COSTS?

A. In response to OCA-Set-XIV-14, which refers to the response to I&E RE-12, the Company stated that in the 2014 rate proceeding, the Predecessor Companies will establish and maintain a storm reserve account on the Company's balance sheet, and expenses will be recorded in the storm reserve account in order to eliminate any impact of such storms on the Company's income statement. The Company stated that the Predecessor Companies did not seek to modify the amounts recovered in the storm reserve account in their 2016 base rate cases as the storm reserve accounts were in place for less than one year and appeared to be working as the parties intended in the Joint Petition.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO THE COMPANY'S AMORTIZATION EXPENSE RECOVERY OVER A THREE-YEAR PERIOD?

A. As I previously stated in my testimony, I am recommending amortizing these Storm Costs over a five-year period (actually 5.3 years) in the same manner as rate case expenses. (See Exhibit DM-20). As I previously testified to, I am recommending disallowance of these Storm Costs balances in rate base. These Storm Costs should solely be accounted for as expenses and amortized over an appropriate period of time. I am also recommending that the Company's Storm Costs balance be adjusted downward by 21.3% based upon the results of the Company's SAIFI benchmark metrics as shown on page 22 Table 9 of OCA

[21] Met-Ed R-2016-2537349; Penelec R-2016-2537352; Penn Power R-2016-2537355 and; West Penn R-2016-2537359.

witness Mr. Rao Konidena's testimony, and consistent with my discussion above as to the reasons for this adjustment. Finally, I am recommending that the Company's 2024 Storm Reserve activity balance of $18,944,000 be disallowed in recovery as these costs are not known and measurable and do not represent actual costs that were incurred due to storm damages.

Q. WHAT IS YOUR RECOMMENDED ADJUSTMENT TO THE COMPANY'S STORM COST BALANCE?

A. As stated previously under my Rate Base section of my testimony, my recommended adjustment is as follows:

Company Storm Reserve Balance 2023	$189,488,000
SAIFI Benchmark Metric – Composite 3-yr. avg.	21.30%
Disallowance	($40,360,944)
Adjusted Balance	$149,127,056
Five-Year amortization	$28,137,180

This adjustment is reflected in my Amortization Exhibit DM-20.

2. Amortization of Extraordinary Storm Damage

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS EXTRAORDINARY STORM DAMAGE?

A. As shown on the Company's FE PA Exhibit PML-1 page 20 of 63 (Adjustment RB-5), the Company proposed to include $85,094,000 of extraordinary storm damages amortized over a three-year period of 3 years for an annual recovery of $28,364,667. (Company FE PA Exhibit PML-1 page 56 of 63 (Adjustment IS-10).

Q. HAS THE COMPANY PROVIDED A BREAKDOWN OF THESE COSTS?

A. Yes, in part. In response to OCA-Set-IV-18, the Company provided a breakdown of these extraordinary storm costs by providing links to petitions for each of the Company's rate districts requesting "Authority to Defer for Regulatory Accounting and Reporting Purposes

Certain Losses from Extraordinary Storm Damage." The Company provided the following breakdown:

Met-Ed – Winter Storm Riley -	$34,700,000 dated November 13, 2018
Penelec- April 2023 Storm -	$ 8,200,000 dated November 8, 2018
Penn Power – Winter Storm Avery -	$ 4,700,000 dated November 14, 2019
Penn Power -March 2023 Storm -	$ 5,500,000 dated November 9, 2023
Penn Power – April 2023 Storm -	$ 9,700,000 dated November 29, 2023
West Penn – Winter Storm Avery -	$10,600,000 dated November 14, 2019
West Penn – Winter Storm Quiana -	$ 6,700,000 dated December 17, 2019
West Penn – Winter Storm Quest -	$ 6,100,000 dated October 3, 2023
Total	**$86,200,000**

In response to OCA Set-XIV-15, the Company provided a further breakdown of these costs.

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. As I previously discussed in my testimony, I am recommending an adjustment to the Company's Extraordinary Storm costs by removing the costs associated with the pending storm deferral petition in Docket No. P-2023-3044479 (Penn-Power) of $9,577,540 as identified in response to OCA-Set IV-16 and 17). Given that this petition has not been ruled on, I am recommending disallowance of this balance and adjusting the Extraordinary Storm costs to $75,516,460 (See Exhibit DM-20). I am also recommending that this balance be amortized over a 5.3 year period in the same manner as I am recommending recovery of rate case expenses including in this filing.

Q. WHAT OTHER ADJUSTMENTS DO YOU HAVE?

A. As more fully explained in OCA witness Mr. Rao Konidena, I am recommending an adjustment to the Company's Extraordinary Storm costs by adjusting this balance based on the Company's reliability performance measures with respect to its System Average Interruption Frequency Index (SAIFI) as addressed on page 22 of Mr. Konidena's testimony, and as discussed in my testimony above. As shown on my Exhibit DM-20, adjusting the balance of $75,516,460 by 21.3% results in a balance adjustment of

$16,085,006 or a recommended balance of the Company's Extraordinary Storm costs of $59,431,454. Amortizing this balance over a 5.3 year period results in an annual recovery of $11,213,482. This is shown on my Exhibit DM-20.

3. Amortization of COVID-19 Regulatory Asset Balance

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS RECOVERY OF COVID-19 COSTS?

A. The Company is proposing to recover its balance related to COVID-19 of $30,383,000 over a three-year period or $10,128,000 annually. This is shown on Company FE-PA Exhibit PML-1 page 56 of 63 (Adjustment IS-10). An explanation of these costs were discussed previously in my testimony under my Rate Base section Unamortized Deferrals.

Q. HAS THE COMPANY PROVIDED SUFFICIENT INFORMATION RELATED TO THESE COSTS?

A. In response to OCA-Set-XIV-11, the Company provided a further breakdown of these costs, through the response to I&E RE-18. Further, as I previously stated, in response to OCA-Set XIV-2 the Company stated that it did not apply for any Federal or State COVID relief funding. During the COVID-19 pandemic the Company maintained the ability to access the capital markets and had sufficient sources of liquidity to support ongoing operations in a manner that was not significantly detrimental to FE PA's business.

Q. WHAT ADJUSTMENTS DO YOU HAVE?

A. As I previously recommended disallowance of these costs in Rate Base for recovery, I am recommending that these costs be solely amortized and expensed. My recommended amortization period is 5.3 years consistent with my recommended normalization periods for rate case expenses. This adjustment reduces the Company's amortization recovery from $10,128,000 to $5,732,642 annually.

Q. WHAT OTHER ISSUES DO YOU WANT TO ADDRESS?

A. As I previously stated, the Company expects the ratepayers to fund 100% of these COVID-19 costs without any offsets or relief that could have been afforded from Federal and State agencies.

4. Amortization of Streetlight Regulatory Asset

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO THE AMORTIZATION OF THE STREETLIGHT REGULATORY ASSET?

A. The Company has proposed to include a Streetlight Regulatory Asset balance of $46,703,000 amortized over a five-year period for an annual recovery of $9,340,600. (FE PA Exhibit PML-1 page 56 of 63 (Adjustment IS-10). The Company is proposing to pro-actively convert 85,000 non-led streetlights to LED over a five-year period. (Statement No. 6 at 10). According to Company witness Mr. Kehl, the Company is seeking approval to recover the remaining net asset value for fixtures converted from all customers. The remaining net asset value for the eligible fixtures is $46,703,000 as of December 2023. (Statement No. 6 at 11). Mr. Kehl stated that the Company will monitor the expense and true up costs, which will be applied in the next base rate case. If the program is approved, the Company will begin recovering the remaining net asset value effective with the effective date of this rate case. (Statement No. 6 at 11-12).

Q. WHAT ARE YOUR RECOMMENDATIONS?

A. I am recommending removing the proposed Amortization expense recovery from the revenue requirement based upon OCA witness Dr. Karl Pavlovic's recommendation that this cost be recovered through a separate tariff surcharge to be effective on the date that the LED streetlight replacement program begins. My adjustment is shown on my Exhibit DM-20.

5. Amortization of Verizon Complaint

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO THE AMORTIZATION OF THE VERIZON COMPLAINT?

A. As identified in Confidential FE PA Exhibit PML-1 page 56 of 63 (Adjustment IS-10), the Company has proposed to recover the **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL).**

Q. WHAT IS YOUR RECOMMENDATION?

A. As I stated previously under my Rate Base section of my testimony, given that these costs are speculative in nature, and not fully yet known and measurable, I am recommending disallowance of these costs for ratemaking purposes. It is uncertain when this complaint will be resolved as the case was appealed by FirstEnergy to the PA Supreme Court and I am advised by OCA counsel that the Supreme Court accepted FirstEnergy's appeal and the disposition of that matter is currently pending.

Q. WHAT ARE YOUR TOTAL ADJUSTMENTS TO THE COMPANY'S AMORTIZATION EXPENSE?

A. My total recommended adjustment to the Company's Amortization Expense is a disallowance of **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL)** and an allowance **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL)** This is shown on my Exhibit DM-20.

G. TAXES OTHER THAN INCOME

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO TAXES OTHER THAN INCOME TAXES?

A. The Company proposed total Taxes Other than Income in the amount of $101,924,000 as shown on Company Exhibit FE PA PML-1 page 58 of 63 (Adjustment IS-11). These Taxes other than Income are related to various taxes related to Public Utility Real Tax (PURTA); Sales and Use Taxes: Real Estate Taxes; Payroll Taxes and Gross Receipts Taxes which is set at a rate of 5.90%.

Q. WHAT ARE YOUR ADJUSTMENTS AND YOUR RECOMMENDED LEVEL OF TAXES OTHER THAN INCOME TAXES?

A. I am accepting the Company's methodology in the calculation of its Taxes Other Than Income. I am making adjustments to the Company's Payroll Taxes that reflect my recommended S&W balance, which includes my adjustments to the Company's vacancy positions and my adjustments to the Company's Incentive Compensation. I removed costs associated with certain Incentive Compensation, which are reflective in the Company's payroll rates accordingly. My adjustment is a $211,877 reduction from the Company's proposed balance of $6,496,716 and the flow through of the Company's O&M allocations.

Q. WHAT ARE YOUR OTHER ADJUSTMENTS TO TAXES OTHER THAN INCOME?

A. I adjusted the PURTA Taxes to reflect the changes in my recommended EPIS balance. I used the Company's PURTA tax level of $6,100,000 to the Company's proposed EPIS balance of $12,550,840,000 to calculate a composite Property tax rate of 0.000486023%. In using my recommended average EPIS balance of $12,541,097,660 times the composite tax rate of 0.000486023%, I computed an adjustment of $6,095,262, a reduction of $4,738. With respect to the additional Gross Receipts Tax, my adjustments flow through the Company's revenue gross up factor as calculated on Company FE PA Exhibit PML-1 page 63 of 63. My adjustments are shown on my Schedule DM-21.

Q. WHAT IS YOUR TOTAL ADJUSTMENT?

A. My total adjustment is a reduction of $98,605 and a balance of $101,825,095.[22] This is shown on my Schedule DM-21.

[22] Differences due to rounding

H. INCOME TAXES

Q. WHAT DID THE COMPANY CALCULATE WITH RESPECT TO ITS INCOME TAXES?

A. The Company proposed total Income Taxes of $127,098,000 as shown on FE PA Exhibit PML-1 page 61 of 63 (Adjustment IS-12). This is comprised of Federal Income Taxes of $90,739,000, and State Income Taxes of $36,045,000.

Q. WHAT OTHER ADJUSTMENTS DID THE COMPANY MAKE TO COMPUTE ITS INCOME TAX EXPENSE?

A. The Company has included the calculation of interest expense through interest synchronization using the Company's proposed weighted cost of debt for a balance of $151,198,000. The Company has included adjustments with respect to its salvage amortization, tax basis repairs, casualty losses, Section 263A deductions, capitalized benefits and other (AFUDC debt, CIAC, Capitalized Interest). These are reflected on Company's FE PA Exhibit PML-1 page 61 of 63.

Q. DO YOU HAVE ANY ADJUSTMENTS TO THE COMPANY'S METHODOLOGY WITH RESPECT TO THE CALCULATION OF THE COMPANY'S INCOME TAXES?

A. No, I am accepting the Company's methodology. My adjustments reflect the recommended changes of Rate Base components and Operating Income adjustments.

Q. WHAT IS YOUR RECOMMENDED FEDERAL INCOME TAXES AND RECOMMENDED STATE INCOME TAXES?

A. My recommended Federal Income Taxes is $56,667,761. My recommended State Income Taxes is $21,956,086.[23]

Q. WHAT IS YOUR ADJUSTMENT RELATED TO THE COMPANY'S INTEREST EXPENSE CALCULATION?

A. Using my recommended Rate Base Balance of $6,901,224,103 and using OCA witness Mr. Griffing's recommended cost of debt of 4.65, and a weighted average cost of debt of 2.28% my recommended Interest Expense is $157,347,910

[23] Differences due to rounding

Q. WHAT IS YOUR TOTAL INCOME TAX EXPENSE?

A. My total Income Tax Expense is $78,623,847 which is $48,160,472 lower than the Company's Income Tax Expense of $126,784,000 which is shown on my Schedule DM-22.

I. DEFERRED INCOME TAXES

Q. WHAT HAS THE COMPANY PROPOSED WITH RESPECT TO ITS DEFERRED INCOME TAXES?

A. The Company has proposed a balance to its Deferred Income Taxes of $4,625,000 as shown on Company FE PA Exhibit PML-1 page 62 of 63 (Adjustment IS-13).

Q. DO YOU HAVE ANY ADJUSTMENTS?

A. No, I am accepting the Company's Deferred Income Tax balance of $4,625,000. This is shown on my Exhibit DM- 23.

IV. Act 40 Requirements (Act 40 of 2016)

Q. WHAT ARE THE ACT 40 REQUIREMENTS?

A. Act 40 took effect on August 11, 2016, which among other things, eliminated the consolidated tax savings adjustment. Prior to Act 40, the Company would have been required to adjust its revenue increase request downward to reflect tax savings associated with filing taxes as part of a parent or holding company. This practice recognized that the Company's ratepayers only paid through rates those taxes that the Company actually paid. Act 40 requires the Company to continue its performance of the consolidated tax savings calculation and provide that consolidated tax savings differential as part of its rate case filing. In part, Act 40 states:

> If an expense or investment is allowed to be included in a public utility's rates for ratemaking purposes, the related income tax deductions and credits shall also be included in the computation of current or deferred income tax expense to reduce rates. If an expense or investment is not allowed to be

> included in a public utility's rates, the related income tax deductions and credits, including tax losses of the public utility's parent or affiliated companies, shall not be included in the computation of income tax expense to reduce rates. The deferred income taxes used to determine the rate base of a public utility for ratemaking purposes shall be based solely on the tax deductions and credits received by the public utility and shall not include any deductions or credits generated by the expenses or investments of a public utility's parent or any affiliated entity. The income tax expense shall be computed using the statutory income tax rates.

Act 40 further states:

> REVENUE USE- If a differential accrues to a public utility resulting from applying the ratemaking methods employed by the commission prior to the effective date of subsection (a) for ratemaking purposes, the differential shall be used as follows:
>
> (1) Fifty percent to support reliability or infrastructure related to the rate-base eligible capital investment as determined by the commission; and
> (2) Fifty percent for general corporate purposes.

As a result, ratepayers now pay taxes in excess of those taxes that the Company actually pays, and the revenue use requirement specifies how those additional revenues are to be applied. Section 1301.1 (b) requires the Company to use 50% of that differential for reliability or infrastructure related capital investment and the remaining 50% for general corporate purposes.

Q. HAS THE COMPANY CALCULATED A CONSOLIDATED TAX EXPENSE ADJUSTMENT (CTA)?

A. According to Company witness Mr. Gawlik, the Company has not calculated a CTA, because the Company's Federal Income Tax expense is computed on a standalone basis, in accordance with 66 Pa. C.S. § 1301.1 (a) without regard to the deductions, losses, or credits of affiliates in the same consolidated group using the applicable federal statutory income tax rate (currently 21%). (Statement No. 5 at 3).

Q. HAS THE COMPANY SATISFIED THE FIRST REQUIREMENT UNDER ACT 40 – 50% OF THE DIFFERENTIAL SPENT ON INFRASTRUCTURE REPLACEMENT?

A. Yes. As explained in response to OCA-Set-IV-54, the Company stated that FirstEnergy projects calculate to $786 million of distribution plant additions in service in 2025, of which $312 million is attributable to LTIIP III, which leaves $474 million in distribution plant additions projects to be placed in service in excess of the Company's LTIIP III plant. This amount is greater than 50% of the $921.995 million amount that Mr. Gawlik has identified as CTA.

Q. WHAT IS THE COMPANY'S PROPOSAL FOR THE OTHER 50% OF THE DIFFERENTIAL, WHICH SECTION 1301.1(b)(2) STATES MUST BE USED FOR "GENERAL CORPORATE PURPOSES"?

A. The Company does not appear to propose a specific treatment for the other 50% of the differential, which Section 1301.1(b)(2) states must be used for "general corporate purposes." Mr. Gawlik stated that the other 50% shall be used for general corporate purposes. (Statement No. 5 at 4).

Q. WHAT DO YOU CONCLUDE FROM FIRSTENERGY'S FAILURE TO SPECIFY A USE FOR THE 50% OF THE DIFFERENTIAL THAT ACT 40 REQUIRES TO BE USED FOR "GENERAL CORPORATE PURPOSES"?

A. FirstEnergy has identified no specific ways in which that 50% of the differential would be used in any way to benefit Pennsylvania ratepayers. One might conclude from this that PECO therefore basically intends to use that money for the benefit of its stockholders, and not apply it in any manner to provide a quantifiable ratepayer benefit or in a manner that directly benefits service to Pennsylvania customers.

Q. WHAT DOES "GENERAL CORPORATE PURPOSES" AS USED IN ACT 40 MEAN?

A. Because FirstEnergy is a regulated utility in Pennsylvania, its "general corporate purpose" is to provide regulated utility service in the Commonwealth of Pennsylvania. While the term "general corporate purposes" is rather vague, consistent with that general corporate purpose of regulated utilities, general corporate purposes would include uses for such

"differential" revenues as supporting capital expenditures necessary to execute utility business plans, paying off debt, funding construction projects, paying dividends, paying for maintenance and operating expenses, investing in utility plant in Pennsylvania, and providing a source of working capital. Many of these uses for "general corporate purposes" would have a quantifiable benefit to Pennsylvania ratepayers. As I read the entirety of Act 40, the "revenue use differential" addressed in the Act for "general corporate purposes" should mean public utility purposes and uses that result in having some identifiable and quantifiable benefit to Pennsylvania and FirstEnergy ratepayers, rather than just resulting in a windfall of **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL)** annually to FirstEnergy's shareholders or affiliates.

Q. WHAT SPECIFIC RECOMMENDATION DO YOU HAVE IN THE CURRENT FIRSTENERGY RATE CASE FOR APPLYING THE 50% OF THE "REVENUE USE" DIFFERENTIAL THAT ACT 40 REQUIRES TO BE FOR "GENERAL CORPORATE PURPOSES"?

A. I have reflected the 50% differential for general corporate purposes as a source of non-investor-supplied funding for utility working capital. In Confidential II-D-23 Attachment A, the Company has calculated **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL)** as a consolidated tax adjustment. I have taxed 50% of the balance or **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL** as a reduction to the Company's Rate Base balance. This is shown on my Exhibit DM-3.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

APPENDIX A

DANTE MUGRACE

Education

Master Business Administration, MBA Strategic Management, Pace University, Lubin School of Business, New York, NY, 2010

Master Public Administration, MPA, Kean University, Union, NJ, 2001

Bachelor of Science, BS. Accounting, St. Peter's University, Jersey City, NJ, 1983

Position

Senior Consultant – PCMG and Associates	2014 – present
Senior Consultant – Snavely King Majoros and Associates	2013 – 2014
Independent Consultant	2012 – 2013
Bureau Chief/Administrative Analyst/Accountant – New Jersey Board of Public Utilities	1983 – 2011

Professional Experience

Mr. Mugrace has 35 years' experience in all aspects of regulatory accounting and policy including processing, analyzing and evaluating utility rate case petitions before Public Service Commissions. Mr. Mugrace examines and evaluates rate filings, contracts, agreements and rate matters regarding utility operations and provides recommendations as to best course of action. Additionally, Mr. Mugrace analyzes and reviews utility regulatory matters and sets forth recommendations for resolution of issues, calculates total revenue requirement needed to cover operating expenses and rate of return; researches and evaluates regulatory utility matters to assess impact on various classes of customers, regarding rates, service, compliance and cost of service provisions, as well as annual true-up and tracking mechanisms.

Prior to undertaking consulting assignments, Mr. Mugrace was the Bureau Chief Utility Rate Manager for the New Jersey Board of Public Utilities, in which role he managed and assigned tasks to a staff of 12 professionals and supervisory personal in the daily administrative, financial and managerial functions of the Division. Mr. Mugrace's primary duties were to determine whether the utility had sufficient revenues to cover its operating expenses and earn a return on its plant investment and to ensure that the utility provided safe, reliable and continuing utility service to its customers. Mr. Mugrace set rates and charges for utility companies, which had revenues of up to $500 million, and ensured that the revenue requirement provided for recovery of all operating expenses, return on investment and depreciation. Mr. Mugrace was also responsible for reviewing and verifying that the companies' property, plant and equipment (up to $2.5 billion) were used and useful in providing service to its customers. Mr. Mugrace coordinated and met with the New Jersey State Department of Environmental Protection to

determine whether water and wastewater utilities were complying with state regulations and were adhering to any regulatory agency directives or orders. Mr. Mugrace developed ways to minimize the rising costs of water utility services by investigating alternative rate structures, analyzing engineering mechanisms and techniques, looking into the feasibility of mergers and acquisitions within the water industry and reviewing financing, and rate alternatives to minimize the impact on ratepayers. Mr. Mugrace was responsible for ensuring that the rate-case process adhered the statutory timeframe for preparing, reviewing and recommending findings to the Board Commissioners on financial operations, costs, revenues and operating expenses, prior to the litigation proceedings. Mr. Mugrace also examined alternative rate recovery mechanisms and clauses, phase-ins of revenue requirements, deferral mechanisms and pass-through of rate charges. Mr. Mugrace assumed the role of Director during transition periods and Administrative changes. Finally, Mr. Mugrace conducted the recruitment and hiring of employees for placement within the Division and the Board.

Professional and Business Affiliations

- Institute of Public Utilities (IPU) Michigan State University (MSU), National Association of Regulatory Utility Commissioners (NARUC), National Association of State Utility Consumer Advocates (NASUCA)

References

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Regulatory Projects and Appearances

1. In Re: Northern States Power Company for Approval of a 2024 Natural Gas Rate Increase.
   (Appearance: Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff).
   North Dakota Public Service Commission – Docket No. PU-23-367.

2. In Re: FirstEnergy Pennsylvania Electric Company for Approval of a General Base Rate Case increase for Electric Distribution rates for service.
   (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket No. R-2024-3047068

3. In Re: Duquesne Light Company for Approval of a General Base Rate Case to increase Electric Distribution rates for service.
   (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket No.- R-2024-3046523

4. In Re: Peoples Natural Gas Company, LLC for Approval of a General Base Rate Case increases in Natural Gas Service.
   (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket No. R-2023-3044549

5. In Re: Black Hills Energy Arkansas, Inc. (BHEA) and Summit Utilities Arkansas, Inc. (SUA) for a General Change, or Modification in its Rates, Charges and Tariffs
   (Appearance: Incentive Compensation Proposals on behalf of the Attorney General Office)
   Arkansas Public Service Commission – Docket No. (BHEA) - 23-074-U and Docket No. (SUA) - 23-079-U.

6. In Re: Montana Dakota Utilities Co. for Approval to increase Gas Rates for Natural Gas Service in North Dakota
   (Appearance- Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff)
   North Dakota Public Service Commission – Docket No. PU-23-341

7. In Re: Otter Tail Power Company for Approval to increase Electric Rates in North Dakota.
   (Appearance: Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff)
   North Dakota Public Service Commission – Docket No. PU-23-342

8. In Re: New Jersey-American Water Company for Approval to change the level of its Purchased Water and Purchased Wastewater Treatment Adjustment Clause for 2023.
   (Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)

New Jersey Board of Public Utilities – Docket No. WR23110791

9. In Re: Verified Petition of Jersey Central Power & Light Company to establish a Rate for Rider Lost Revenue Adjustment Mechanism for Sales Losses incurred during Program Year 2 Pursuant to the Energy Efficiency and Peak Demand Reductions Programs (PY Rider LRAM Filing).
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23110865

10. In Re: Fitchburg Gas & Electric Company; The Berkshire Gas Company; Boston Gas Company d/b/a National Grid; Liberty Utilities; Eversource Gas of Massachusetts d/b/a Eversource Energy and; NSTAR Gas Company d/b/a Eversource Energy – 2023 Gas System Enhancement Program Plan Filings. (DPU GSEP-01; DPU GSEP-02; DPU GSEP-03; DPU GSEP-04; DPU GSEP-05; and DPU GSEP-06, respectively)
(Appearance: Accounting Issues on behalf of the Commonwealth of Massachusetts Office of the Attorney General)
Department of Public Utilities

11. In Re: Northern States Power Company – Advance Determination of Prudence – 345 kV Transmission Line – MN.
(Appearance: Accounting Issues and Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff.
North Dakota Public Service Commission – Docket No. PU-23-142.

12. In Re: Northern States Power Company – Advance Determination of Prudence- Brookings Second Circuit Project.
(Appearance: Accounting Issues and Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff.
North Dakota Public Service Commission – Docket No. PU-23-295.

13. In Re: Northern States Power Company – Advance Determination of Prudence – 345 kV Big Stone to Sherburne.
(Appearance: Accounting Issues and Revenue Requirements on behalf of the North Dakota Public Service Commission Advocacy Staff.
North Dakota Public Service Commission – Docket No. PU-23-329.

14. In Re: Rockland Electric Company – Annual Conservation Incentive Program Filing – Reconciliation for the period July 1, 2022 – June 30, 2023.
(Appearance: Accounting Issues on behalf the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070471

15. In Re: Public Service Electric & Gas Company for Approval of Incremental COVID-19 Costs for Recovery through a New Special Purpose Clause and for Authorization to Recovery Uncollectible Costs for Gas Through the Societal Benefits Charge
16. (Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070448

17. In Re: Jersey Central Power & Light Company's Verified Petition Seeking Review and Approval of the Net Deferred Costs Included in its COVID-19 Regulatory Asset and Establishment of a COVID-19 Recovery Charge (JCP&L CRC-Filing)
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070453.

18. In Re: Aqua New Jersey, Inc. Petition for 2024 PSTAC Rate and True-up for 2021 and 2022 PSTAC.
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR23080576

19. In Re: Public Service Electric & Gas Company for Approval of Changes in its Electric Tax Adjustment Credit and Gas Tax Adjustment Credit 2023 (2023 TAC Filing)
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23090634 and GR23090635

20. In Re: New Jersey – American Water Company for Deferral Accounting Authority for the Costs of Implementing the Clean Energy Act of 2018 Benchmarking Requirements.
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WF23060346

21. In Re: Public Service Electric & Gas Company – Annual BGSS (2023-2024) Commodity Charge Filing for its Residential Gas Customers under its Periodic Pricing Mechanism and for Changes in its Balancing Charge Rate.
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR23060331

22. In Re: Public Service Electric & Gas Company – Electric and Gas Green Programs Recovery Charges 2023. (GPRC).
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070423 and GR23070424

23. In Re: Public Service Electric & Gas Company – Electric Solar Pilot Recovery Charge (SPRC) for its Solar Loan I Program (2023).
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23060412

24. In Re: Middlesex Water Company for approval of Proposed Cost Recovery of Lead Service Line Replacement Program
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR23050291

25. In Re: Black Hills Wyoming Gas, LLC d/b/a Black Hills Energy for Approval of a General Rate Increase of $19,262,412 to the Retail Gas Rates.

(Appearance: Revenue Requirement on behalf of the Wyoming Office of Consumer Advocate)
Wyoming Public Service Commission – Docket No. 30026-78-GR-23

26. In Re: Pittsburgh Water and Sewer Authority for an Increase in Rates for Water Service, Wastewater Service and Stormwater Service
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2023-3039920 (water), R-2023-3039921 (wastewater), and R-2023-3039919 (stormwater)

27. In Re: Massachusetts Electric and Nantucket Electric Companies d/b/a National Grid – Request for recovery of Incremental Storm related expenses associated with fourteen weather events between February 2020 and December 2020.
(Appearance: Storm Cost recovery (Operating and Maintenance Expenses) on behalf of the Massachusetts Office of Attorney General.
Massachusetts Department of Public Utilities – DPU No. 22-43.

28. In Re: Philadelphia Gas Works – for approval of an Increase in rates for Distribution Gas Service for 2023
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2023-3037933

29. In Re: Lanai Water Company, Inc. for Review and Approval of Rate Increases, Revised Rate Schedules and Charges to its Tariff.
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2022-0233

30. In Re: Hawaii Water Service Company, Inc., For Approval of a General Rate Increase for Its Pukalani Wastewater Division and Certain Tariff Changes
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2022-0186

31. In Re: UGI Utilities – Electric Division for Review of an Electric Base Rate Case proceeding for 2023.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3037368

32. In Re: Southern Maryland Electric Cooperative, Inc. (SMECO) for Authority to Revise its Rates and Charges for Electric Service and Certain Rate Design Changes.
(Appearance: Revenue Requirement on behalf of the Maryland Office of People's Counsel)

Maryland Public Service Commission – Case No. 9688

33. In Re: Public Service Electric and Gas Company – 2022 Electric and Gas Tax Adjustment Credit (TAC)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket Nos. ER22100667 and GR22100668

34. In Re: Public Service Electric and Gas Company – 2022 Green Program Recovery Charge.
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket Nos. ER22070413 and GR22070414

35. In Re: Rockland Electric Company – Annual Conservation Incentive Program Filing – Reconciliation for the Period July 1, 2021 – June 30, 2022.
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket No. ER22070469.

36. In Re: Atlantic City Electric Company for Implementation to its Conservation Incentive Program Rate Mechanism and Associated Customer Class Rate (2022)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket No. ER22070463

37. In Re: Public Service Electric and Gas Company – 2022/2023 Annual BGSS Commodity Charge filing for its Residential Gas Customers under its Periodic Pricing Mechanism and for changes to its Balancing Charge.
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket No. GR22060363

38. In Re: Citizens' Electric Company of Lewisburg, PA – 2022 Base Rate Case Proceeding for an Increase in Electric Distribution Rates.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3032369

39. In Re: Valley Energy, Inc. – 2022 Base Rate Case for an Increase in Gas Distribution Rates.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3032300

40. In Re: Berkshire Gas Company – 2021 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office)
Massachusetts Department of Public Utilities – D.P.U. 22-GREC-02

41. In Re: Liberty Utilities (New England Natural Gas Company) 2021 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office)
Massachusetts Department of Public Utilities – D.P.U. 22-GREC-04

42. In Re: Eversource Gas Company (Eversource Energy) 2021 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office)
Massachusetts Department of Public Utilities – D.P.U. 22-GREC-05

43. In Re: South Jersey Gas Company – 2022 Base Rate Case Proceeding for an Increase in rates for Distribution Gas Service.
(Appearance: Revenue Requirement, CWC and Consolidated Income Taxes on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GR22040253

44. In Re: Public Service Electric and Gas Company – 2022 Electric Conservation Incentive Program (CIP) for changes in its Electric CIP rate for 2022.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER22020035

45. In Re: PECO Energy Company-Gas Division – 2022 Base Rate Case Proceeding for an Increase in rates for Distribution Gas Service.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3031113.

46. In Re: Nova Scotia Power Company- 2022-2024 General Rate Application for an Increase in Rates for Electric Service
(Appearance- Review of COSS – Subcontract with Synapse Energy Economics, Inc. on behalf of the Nova Scotia Utility Review Board)
Nova Scotia Utility and Review Board – Docket No. M10431

47. In Re: Georgia Power Company – 2022 Base Rate Case petition for an Increase in rates for Electric Distribution Service
(Appearance: Review of O&M Expenses for calendar years 2023-2025 on behalf of the Georgia Public Service Commission – Docket No. TBD

48. In Re: UGI Utilities Inc, Gas Division – 2022 Base Rate Case petition for an Increase in Distribution Gas Service Rates
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3030218

49. In Re: Hawaii-American Water Company – Approval of Rate Increases and Revised Rate Schedules for Wastewater Services – 2021
(Appearances: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2021-0063

50. In Re: Kalaeloa Water Company – Approval of a General Rate Increase / Adjustments for Water and Wastewater Services – 2021
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2021-0005

51. In Re: Northern States Power Company – 2021 Natural Gas Rate Increase Application
(Appearance: Revenue Requirements on behalf of the Advocacy Staff of the North Dakota Public Service Commission – Case No. PU-21-381

52. In Re: Shore Water Company – Petition for an Increase in Rates for Water Service and Other Relief
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21091141

53. In Re: Atlantic City Sewerage Company – Petition for an Increase in Rates for Sewerage Service and other Tariff Changes
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21071006

54. In Re: Gordon's Corner Water Company – Petition for an Increase in Rates and Charges for Water Service
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21070979

55. In Re: The Petition of HPBS Inc., for review and approval of Central Scheduling System (CSS) charge increase and revised CSS Schedule (2021)
(Appearance – Accounting and Revenue Requirement on behalf of the Hawaii Division of Commerce and Consumer Affairs
Hawaii DCCA – Docket No. PTP-2021-001

56. In Re: The Berkshire Gas Company, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance – Massachusetts Attorney General's Office – Accounting and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-02

57. In Re: Eversource Gas Company of Massachusetts d/b/a Eversource Energy, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance – Massachusetts Attorney General's Office – Account and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-05

58. In Re: NSTAR Gas Company d/b/a Eversource Energy, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance: Massachusetts Attorney General's Office – Accounting and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-06

59. In Re: Joint Petition of New Jersey Natural Gas Company and Public Service Electric and Gas Company for Authorization and Approval of a Waiver of Certain Accounting Treatment Pursuant to the Clean Energy Order
(Appearance – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement.
New Jersey Board of Public Utilities – BPU Docket No. EO20030254

60. In Re: Public Service Electric and Gas Company – 2021/2022 Annual BGSS Commodity Charge Filing for its Residential Gas Customers under its Periodic Pricing Mechanism and for Changes in its Balance Charge.
(Appearance – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. GR21060878

61. In Re: Middlesex Water Company – Petition for Approval of an Increase in Rates for Water Service and Other Tariff Changes.
(Appearances – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21050813

62. In Re: New Jersey Natural Gas Company – Petition for an Increase in Gas Base Rates and Changes in its Tariff for Gas Service and for a Change to Depreciation Rates for Gas Property and for Approval of a Base Rate Adjustment Pursuant to the NJ RISE and SAFE II Programs.
(Appearances: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket Nos. GR21030679 and GR21030680.

63. In Re: PECO Energy Company – a division of Exelon Corp., for a General Base Rate Case Filing for Electric Operations
(Appearances: Accounting and Policy on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2021-3024601

64. In Re: The Pittsburgh Water and Sewer Authority for approval of increased rates and charges for Water, Wastewater and Stormwater services
(Appearance: Accounting and Policy, and Regulatory Policy on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2021-3024773 (Water) R-2021-3024774 (Wastewater) and R-2021-3024779 (Stormwater).

65. In Re: Northern States Power Company – 2021 Electric Base Rate Case Increase
(Appearance: Revenue Requirement on behalf of the Advocacy Staff of the North Dakota Public Service Commission)
North Dakota Public Service Commission – Case No. PUC-20-441

66. In Re: Public Service Electric and Gas Company – Approval of a Tax Adjustment Clause (TAC).
(Appearance; Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER20100685 and GR20100686.

67. In Re: Pike County Light and Power Company – Approval to increase base rates for Electric and Gas Service.
(Appearance: Revenue Requirement in behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2020-3022134 (Gas) and R-2020-3022135 (Electric)

68. In Re: Jersey Central Power and Light Company for Approval of JCP&L's Energy Efficiency and Conservation Plan Including Energy Efficiency and Peak Demand Reduction Programs.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090620

69. In Re: Atlantic City Electric Company for Approval of an Energy Efficiency Program, Cost Recovery Mechanism, and Other Related Relief for Plan Years One Through Three.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090621

70. In Re: Rockland Electric Company for Approval of Its Energy Efficiency and Peak Demand Reduction Programs.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090623

71. In Re: Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charge and its Gas Green Programs Recovery Charge 2020 PSE&G Green Programs Cost Recovery filing

(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER20060467 and GR20060468

72. In Re: Public Service Electric and Gas Company's 2020/2021 Annual BGSS Commodity Charge filing for its Residential Gas Customers under its Pricing Mechanism and for Changes in its Balance Charge
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060379

73. In Re: Public Service Electric and Gas Company's 2020 Annual Margin Adjustment Clause (MAC)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060384

74. In Re: South Jersey Gas Company for Approval to Revise the Rider H Rate Associated with the Tax Cuts and Jobs Act of 2017
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060382

75. In Re: Berkshire Gas Company -2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts -Department of Public Utilities – DPU 20-GREC-02

76. In Re: Bay States Gas Company d/b/a Columbia Gas – 2019 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-05

77. In Re: NSTAR Gas Company – 2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-06

78. In Re: South Jersey Gas Company for Approval of Increased Base Tariff Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearances: Revenue Requirement and Cash Working Capital) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. GR20030243

79. In Re: Jersey Central Power & Light Company for Review and Approval of Increased in, and Other Adjustments to Rates and Charges for Electric Services and approval of Other Proposed Tariff Revisions (Appearance: Revenue Requirement, Cash Working Capital,

Consolidated Income Taxes, LED Conversion and Reliability Roll-In) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. ER20020146

80. In Re: The Pittsburgh Water and Sewer Authority for approval of increased rates and charges for water and wastewater service and for approval of a multi-year rate plan.
(Appearance: Accounting and Policy, Customer Service and Regulatory Policy) on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2020-3017951 and R-2020-3017970.

81. In Re: New Jersey-American Water Company, Inc. for approval of Increased Base Tariff Rates and Charges for Water and Wastewater Services and Other Tariff Revisions.
(Appearance: Accounting and Revenue Requirement and Cash Working Capital / Consolidated Income Taxes) on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19121516

82. In Re: Hawaiian Electric Company, Inc., for approval of a General Rate Increase and Revised Rate Schedules and Rules.
(Appearance: Accounting and Revenue Requirement on behalf of the Hawaiian Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0085

83. In Re: Mount Olive Villages Water Company for approval of an Increase in Rates for Water Service and Other Tariff Changes.
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060770

84. In Re: Mount Olive Villages Sewer Company for approval of an Increase in Rates for Sewer Service and Other Tariff Changes.
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060769

85. In Re: Public Service Electric and Gas Company for approval of changes in its Electric Green Programs Recovery and its Gas Green Programs Recovery Charge (2019 PSE&G Green Programs Cost Recovery Filing).
(Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER19070764 and GR19070765

86. In Re: Proposed Amendment to N.J.A.C. 14:9- Adoption by reference to the Uniform System of Accounts for Water Utilities and Wastewater Utilities.
(Appearance: Consulting Services on behalf of the New Jersey Division of Rate Counsel)

New Jersey Board of Public Utilities- Docket Nos. WX19050612 (Water) and WX19050613 (Wastewater)

87. In Re: Public Service Electric and Gas Company's 2019/2020 Annual BGSS Commodity Charge filing for its Residential Gas Customers Under its Periodic Pricing Mechanism and for Changes in its Balancing Charge.
(Appearance: Revenue Requirement and accounting/consulting services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR190600699

88. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-05

89. In Re: NSTAR Gas Company d/b/a Eversource Energy for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-06

90. In Re: Public Service Electric and Gas Company for Approval of Gas Rate Base Adjustments Pursuant to its Gas System Modernization Program (April 2019 GSMP)
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR19040522

91. In Re: Kalaeloa Water Company, LLC for Approval of General Rate Case and Revised Rules, Regulations and Rates.
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0057

92. In Re: Elizabethtown Gas Company for Approval of an Increase in Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – Docket No. GR19040586

93. In Re: Petition of Peoples Natural Gas Company for Approval of an Increase in Rates for Natural Gas Distribution Service.
(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2018-3006818

94. In Re: Petition of Aqua New Jersey, Inc. for Approval of an Increase in Rates for Water Service and other Tariff Changes.
(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18121351

95. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Efficiency (CEF-EE) Program on a Regulated Basis.
(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket Nos. GO18101112 and EO18101113.

96. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Vehicle and Energy Storage (CEF-EVES) Program on a Regulated Basis. (Appearance – Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. EO18101111.

97. In Re: Petition of New Jersey Natural Gas Company- Request for Deferred Accounting Authority for Costs Related to New Information Technology Systems. (Appearance: Impact on Revenues, prudency of costs on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GR18101096

98. In Re: Petition for Approval of An Indirect Change in Control of the New Jersey Public Utilities Subsidiaries of SUEZ Water Resources, Inc. and Other Related Approvals.
(Appearance: Impact on Rates, Service, Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18090982

99. In Re: The Matter of the Merger of Roxbury Water Company into New Jersey American Water Company (Appearance: Impact on Rates, Service and Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18080904

100. In Re: The Matter of the Application of Maryland-American Water Company for Authorization to Adjust its Existing Schedule of Tariffs and Rates.
(Appearance: Revenue Requirement on behalf of the Maryland Office of People's Counsel)
Maryland Public Service Commission – Case No. 9487

101. In Re: The Matter of the Joint Petition for Approval of an Increase in Rates for Water and Wastewater Service and Other Tariff Changes for SUEZ Water NJ, Inc., Toms River, Inc., Arlington Hill, Inc., West Milford, Inc., Matchaponix, Inc., and Princeton Meadows, Inc.

(Appearance: Revenue Requirement and the development of Consolidated Income Taxes on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18050593

102. In Re: The Matter of the Application of Atlantic City Electric Company to Adjust the Level of its Rider RGGI Rate Associated with its Solar Renewable Energy Certificate Financing Program 2018 (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. ER18050543

103. In Re: The Matter of the Petition of New Jersey Natural Gas Company's Approval of the Cost Recovery Associated with Energy Efficiency Programs (Appearance; Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No, GR18050585

104. In Re: The Matter of Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2017 Gas System Enhancement Reconciliation Filing (Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy)
Commonwealth of Massachusetts – Department of Public Utilities – Docket No. D.P.U. 18-GREC-05.

105. In Re; The Matter of NSTAR Gas Company d/b/a Eversource Energy, Gas System Enhancement Program Reconciliation Filing (Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy)
Commonwealth of Massachusetts – Department of Public Utilities – Docket No. D.P.U. 18-GREC-06.

106. In Re: The Matter of the Merger of SUEZ Water NJ, SUEZ Water Toms River, SUEZ Water Arlington Hills, SUEZ Water West Milford, SUEZ Water Princeton Meadows and SUEZ Water Matchaponix (Appearance: Positive Benefits related to the Merger on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18030266

107. In Re: The Matter of the Columbia Gas of Pennsylvania for a General Rate Increase in Distribution Gas Service (Appearance; Accounting Issues and Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2018-2647577

108. In Re: The Matter of the New Jersey Board of Public Utilities Consideration of the Tax Cuts and Jobs Act of 2017 – Generic Proceeding (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. AX18010001

109. In Re: Acquisition of Elizabethtown Gas, a Division of Pivotal Utilities Holdings, Inc. by ETG Acquisition Corp., a Division of South Jersey Industries, Inc., and Related

Transactions. (Appearance: Customer Service Issues/Employee and Labor Relations on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GM17121309.

110. In Re: Middlesex Water Company – Base Rate Case Proceeding for Water Service. (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket No. WR17101049.

111. In Re: Township of East Brunswick – Sewer Rate Study – (Evaluation of the existing sewer rate structure and examining and quantify costs for future expansion).

112. In Re: Montana-Dakota Utilities – Base Rate Case Proceeding for Gas Service. (Appearance: revenue requirement on behalf of the North Dakota Public Service Commission). NDPSC Docket No. PU-17-295.

113. In Re: Andover Utility Company – Base Rate Case Proceeding for Wastewater Services. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket No. WR17070726.

114. In Re: Public Service Electric and Gas Company- Approval of Changes in its Electric and Gas Green Programs Recovery Charges "2017 Public Service Electric & Gas Green Programs Cost Recovery Filing. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket Nos. ER17070724 and GR17070725.

115. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2016 Gas System Enhancement Program Reconciliation Filing, (Appearance: revenue requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy).
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-05.

116. In Re: NSTAR Gas Company d/b/a Eversource Energy, 2016 Gas System Enhancement Program Reconciliation Filing (Appearance: revenue requirement on behalf of the Massachusetts Attorney General's Office of Ratepayer Advocacy.
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-06.

117. In Re: Petition of Columbia Gas of Maryland – Increase in rates for Distribution Service – (Appearance: revenue requirement on behalf of the Office of People's Counsel) Public Service Commission of Maryland – Case No. 9447

118. In Re: Petition of South Jersey Gas Company – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR17010071

119. In Re: Petition of UGI Penn Natural Gas – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utilities Commission Docket No. R-2016-2580030

120. In Re: Petition of PJM Interconnection, LLC. – Mid-Atlantic Interstate Transmission, LLC. Formula Rate Filing. (Appearance on behalf of the Pennsylvania Office of Consumer Advocate).
FERC Docket No. ER17-211-000

121. In Re: Petition of Pivotal Utility Holdings, Inc. d/b/a Elizabethtown Gas Company for approval of Increased Base Tariff Rates and Charges for Gas Service and Other Tariff Revisions (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GR16090826

122. In Re: Petition of SUEZ Water New Jersey, et al – Approval of a Management and Services Agreement pursuant to N.J.S.A 48: 3-7.1 (Appearance on the reasonableness of contract agreements on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WO16080806

123. In Re: Petition of SUEZ Water Arlington Hills Inc. – Approval of an Increase in Rates for Wastewater Services and other Tariff Changes (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050510

124. In Re: Petition of Public Service Electric and Gas Company – 2016 Marginal Adjustment Clause (MAC) (Appearance; reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GR16060484

125. In Re: Petition of Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charges and its Gas Green Program Recovery Charges 2016 PSEG Program Cost Recovery Filing
(Appearance: reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket Nos. ER16070613 and GR16070614

126. In Re: Petition of the Mount Olive Village Sewer Company, Inc., for Approval of an Increase in Rates for Service (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050391

127. In Re: Petition of the Mount Olive Village Water Company, Inc. for Approval of an Increase in Rates for Service (Appearance; revenue requirement on behalf of the New Jersey Division of Rate Counsel)

New Jersey Board of Public Utilities Docket No. WR16050390

128. In Re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Advice to Counsel: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01

129. In Re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Appearance: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05

130. In Re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Analysis and Advice to Counsel: compliance with statutes and regulations, review of contract, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)
    NH Public Utilities Commission Docket No. DE 16-241

131. In Re: Central Maine Power Company, Annual Compliance Filing and Price Change (2016) - (Analysis and Advice to Counsel; tax normalization regulatory asset on behalf of the Maine Office of the Public Advocate)
    ME Public Service Commission Docket No. 2016-00035

132. In Re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (Appearance: productivity adjustments/performance-based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
    Alberta Utilities Commission Proceeding 20414

133. In Re: The Matter of Request by Emera Maine for Approval of a Rate Change (2016) - (Appearance: revenue requirement on behalf of the Maine Office of the Public Advocate)
    Maine Public Utilities Commission Docket No. 15-00360)

134. In Re: the Matter of the Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Holdings, Inc. d/b/a Elkton Gas (2015-2016) - (Analysis and advice to counsel: customer service impacts, employee impacts, supplier diversity on behalf of the Maryland Office of People's Counsel)
    MD PSC Case No. 9404

135. In Re: The Matter of the Merger of Southern Company and AGL Inc. (2015-2016) - (Appearance: customer service impacts and employee impacts on behalf of the NJ Division of Rate Counsel)
    New Jersey BPU Docket No. GM15101196

136. In Re: The Matter of the United Water New Jersey, Inc., for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2015-2016) - (Appearance: revenue requirements, rate base issues and operating income on behalf of the NJ Division of Rate Counsel)
    New Jersey BPU Docket No. WR15101177

137. In Re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA D.P.U. 15-130

138. In Re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Metro LNG, L.P.; and National Grid LNG (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA D.P.U. 15-129

139. In Re: Columbia Gas of Massachusetts CY2014 Targeted Infrastructure Reinvestment Factor (TIRF) Compliance Filing (2015) - (Appearance: computation of the revenue requirement impact on the TIRF on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA D.P.U. 15-55

140. In Re: The Matter of the Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its Targeted Infrastructure Reinvestment Factor (TIRF) for CY 2013 (2014) - (Appearance: computation of the revenue requirement impact on the TIRF)
    MA D.P.U. 14-83

141. In Re: The Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (Atlantic City Electric Company) (2014-2015) - (Appearance: customer service impacts)
    New Jersey BPU Docket No. EM14060581

91. In Re: Public Utilities Commission of Ohio – In the Matter of the Application of Ohio Power Company (American Electric Power Ohio) (AEP Ohio) to Adopt a Final Implementation Plan for the Retail Stability Rider – (Appearance - Accounting Issues) (2014) on behalf of the Ohio Office of Consumer Counsel (OCC)
    PUCO Case No. 14-1186-EL-RDR

92. In Re: Public Utilities Commission of Ohio - In the Matter of the Application of Aqua Ohio, Inc. to Increase its Rates and Charges for its Waterworks Service. – Revenue and Rates (2014) - (Appearance: operating income, certain rate base issues and income taxes on behalf of the Ohio Office of Consumer Counsel)
    PUCO Case No. 13-2124-WW-AIR

93. In Re: New York Public Service Commission, as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. Revenue Requirement (2013-2014) – (Appearance: revenue requirement, rate base issues and operating income on behalf of the Intervenor, the County of Westchester)
    NYPSC Case Nos. 13-E-0030, 13-G-0031 and 13-S-0032, et al

94. In Re: North Dakota Public Service Commission, - Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota, On-Going Revenue Requirement (2013) - (Appearance: revenue requirement and rate base, operating income, operating and maintenance expenses on behalf of the North Dakota Public Service Commission Staff)
    North Dakota Case No. PU-12-813

95. In the Matter of the Petition of New Jersey American Water Company for Authorization to Implement a Distribution System Improvement Charge (DSIC) Order Denying Petition and Instituting Stakeholder Process (2008) - (Case manager on policy decision and revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
    BPU Docket No. WO08050358

96. In the Matter of the Joint Petition of the City of Trenton, New Jersey and New Jersey-American Water Company, Inc. for Authorization of the Purchase and Sale of the Assets of the Outside Water Utility System ("OWUS") of the City of Trenton, New Jersey and for Other Relief Order Adopting Initial Decision, (2008) - (Case manager on the revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
    BPU Docket No. WM08010063

97. In the Matter of the Petition of United Water New Jersey, United Water Toms River, United Water Lambertville, United Water Mid-Atlantic and Gaz de France for Approval as Need for a Change in Ownership and Control (2007) - (Case manager on customer impact, employee impact and impact on rates on behalf of the Staff of the NJ Board of Public Utilities)
    BPU Docket No. WM06110767

98. In the Matter of the Petition of United Water Arlington Hills Sewerage, Inc. for an Increase in Rates for Wastewater Service and Other Tariff Changes (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
    BPU Docket No. WR08100929

99. In the Matter of the Petition of United Water New Jersey Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes, (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
    BPU Docket No. WR08090710

100. In the Matter of the Petition of United Water Toms River, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on the revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
     BPU Docket No. WR08030139

101. In the Matter of the Joint Petitioners of New Jersey-American Water Company, Inc., S.J. Services, Inc., South Jersey Water Company, Inc. and Pennsgrove Water Supply Company, Inc. for Among Other Things Approval of a Change in Control of South Jersey Water Supply Company, Inc. and Pennsgrove Water Supply Company, Inc. (2007) - (Case manager on the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
     BPU Docket No. WM07020076

102. In the Matter of the Petition of Aqua, New Jersey, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on revenue requirement and the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
     BPU Docket No. WR0712095

103. I/M/O the Joint Petition of Thames Water, Aqua Holdings GMBH, on Behalf of Itself and Its Parent Holdings Company, RWE Aktiengesellschaft, Thames Water Aqua US Holdings, Inc., American Water works Company Inc., Thames Water Holdings Incorporated, E 'town Corporation, New Jersey-American Water Company, Inc., Elizabethtown Water Company, the Mount Holly Water Company and Applied Wastewater Management, Inc. for Confirmation that the Board of Public Utilities Does Not Have Jurisdiction Over, or, Alternatively, for Approval of a Proposed Transaction Involving, Among Other Things, the Sale by Thames Water Aqua Holdings GMBH of Up to 100% of the Shares of the Common Stock of American Waterworks Company, Inc. in One or More Public Offerings (2007) - (Case manager on revenue requirement impacts, effect on rates and effect on service on behalf of the Staff of the NJ Board of Public Utilities)
     BPU Docket No. WM06050388

104. In the Matter of the Petition of Elizabethtown Water Company for Approval of an Increase in Rates for Water Service (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
     BPU Docket No. WR03070510

105. In the Matter of the Petition of New Jersey American Water Company, Inc. for Approval of Increased Tariff Rates and Charges for Water and Sewer Service; Increased Depreciation Rates and Other Tariff Revisions (2008) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
     BPU Docket No. WR08010020

106. In the Matter of Middlesex Water Company for Approval of an Increase in its Rates for Water Service and Other Tariff Changes (2007) - (Case manager on overall revenue

requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR07040275

107. In the Matter of the Joint Petition of United Water New Jersey, Inc., United Water Arlington Hills, Inc., United Water Hampton, Inc., United Water Vernon Water Hills, Inc., and United Water Lambertville, Inc. for an Increase in Rates and Charges for Water Service and Other Tariff Changes and for Approval to Merge the Operations of the Joint Petitioners into and with United Water New Jersey, Inc. (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR07020135

REVENUE REQUIREMENT SUMMARY

		(1) Company Proposed	Adjustment	OCA	References
1	**Rate Base**	**$ 7,165,798,000**	**$ (264,573,897)**	**$ 6,901,224,103**	
2	Rate of Return	8.19%		6.97%	
3	**Operating Income**	**$ 586,878,856**	**$ (105,863,536)**	**$ 481,015,320**	
4	Operating Income - Present Rates	$ 247,085,000	$ 222,495,023	$ 469,580,023	
5	**Additional Income Requirement**	**$ 339,794,000**	**$ (328,358,703)**	**$ 11,435,297**	
6	Gross Revenue Conversion Factor	1.478808		1.478808	Sch. D-22
7	**Base Revenue Requirement Increase**	**$ 502,490,000**	**$ (485,579,395)**	**$ 16,910,605**	
8	Other Operating Revenue	$ -	$ -	$ -	
9	**Total Revenue Requirement Increase**	**$ 502,490,000**	**$ (485,579,395)**	**$ 16,910,605**	
10	**Present Rate Revenues**	$ 1,569,644,000		$ 1,569,644,000	
11	**% Increase**	32.013%		1.077%	
(3)	**Additional Revenues**	**$ 502,490,000**		$ 16,910,605	
(2)	**Total Recommended Revenues**	**$ 2,072,134,000**		**$ 1,586,554,605**	

(1) Company FE PA Exhibit PML-1 page 1

Differences due to rounding

(2) Excludes Other Operating Revenues of $1,359,000

(3)	Met-Ed	$ 145,960,000	29.05%	$ 4,912,082
	Penelec	$ 132,565,000	26.38%	$ 4,461,291
	Penn Power	$ 54,617,000	10.87%	$ 1,838,059
	West Penn	$ 169,348,000	33.70%	$ 5,699,172
	Total FE PA	$ 502,490,000	100.00%	$ 16,910,605

RATE OF RETURN

(1)	Company Proposed	Capitalization Ratio	Embedded Cost	Return %
1	Long - Term Debt	46.190%	4.560%	2.11%
	Preferred Stock	0.000%	0.000%	
2	Common Equity	53.810%	11.300%	6.08%
3	**Total**	**100.000%**		**8.19%**
	OCA (2)			
4	Long - Term Debt	50.000%	4.560%	2.280%
	Preferred Stock			
5	Common Equity	50.000%	9.380%	4.690%
6	**Total**	**100.000%**		**6.970%**
				-1.217%

(1) Company FE Exhibit PML-1 page 3

(2) Testimony of David Garrett

MEASURE OF VALUE - RATE BASE

(PA Jurisdictional)

		(1) Company Proposed	Adjustments	OCA	References
1	Utility Plant in Service	$ 12,550,839,000	$ (9,742,340)	$ 12,541,096,660	DM-5
2	Accumulated Depreciation	$ (3,929,214,000)	$ 62,672,449	$ (3,866,541,551)	DM-6
3	Other Plant	$ -	$ -	$ -	
4	**Net Plant In Service**	**$ 8,621,625,000**	**$ 52,930,110**	**$ 8,674,555,110**	
5	Materials and Supplies	$ 72,094,000	$ -	$ 72,094,000	
6	Cash Working Capital	$ 201,495,000	$ (12,501,429)	$ 188,993,571	DM-7
7	Unamortized Deferral and Verizon	$ 233,198,000	$ [redacted]	$ [redacted]	DM-10
8	Customer Deposits	$ (105,182,000)	$ -	$ (105,182,000)	
9	Customer Advances	$ (557,000)	$ -	$ (557,000)	
10	Accumulated Deferred Income Taxes	$ (1,846,713,000)	$ 17,090,117	$ (1,829,622,883)	DM-9
11	Capitalized Pension and OPEB	$ (10,162,000)	$ 10,162,000	$ -	DM-8
12	[redacted]	[redacted]			OCA-IV-54
13	**Total Measure of Value - Rate Base**	**$ 7,165,798,000**	**$ (264,573,897)**	**$ 6,901,224,103**	

(1) Company FE PA Exhibit PML-1 page 4
(2)

INCOME STATEMENT

		(1) Company Present Rates	Company Rate Increase	Company Proposed Rates	Adjustments	OCA Present Rates	References
	Operating Revenues						
1	Retail Sales	$ 1,495,300,000	$ 502,490,000	$ 1,997,790,000	$ -	$ 1,495,300,000	
2	Rider Revenues	$ -	$ -	$ -	$ -	$ -	
3	Unbilled an NY Revenues	$ -	$ -	$ -	$ -	$ -	
4	Normalized Customers	$ -	$ -	$ -	$ -	$ -	
5	Miscellaneous Service Revenue	$ -	$ -	$ -	$ -	$ -	
6	Energy Efficiency and Behind Meter	$ -	$ -	$ -	$ -	$ -	
7	Other Electric Revenues	$ 74,344,000	$ 1,359,000	$ 75,703,000	$ -	$ 74,344,000	
8	Revenue Increase	$ -	$ -	$ -			
9	**Total Operating Revenues**	**$ 1,569,644,000**	**$ 503,849,000**	**$ 2,073,493,000**	**$ -**	**$ 1,569,644,000**	
	Operating Expenses						
10	Transmission Expense	$ 6,644,000	$ -	$ 6,644,000	$ 1,000	$ 6,645,000	DM-12
11	Distribution Expense	$ 424,195,000	$ -	$ 424,195,000	$ (52,398,027)	$ 371,796,973	DM-14
12	Customer Accounts Expense	$ 60,332,000	$ 5,528,000	$ 65,860,000	$ (21,244,358)	$ 44,615,642	DM-15-E29
13	Customer Service & Info. Expense	$ 29,246,000	$ -	$ 29,246,000	$ (8,118,329)	$ 21,127,671	DM-16
14	Sales Expense	$ -	$ -	$ -	$ -	$ -	
15	Administrative & General Expense	$ 181,773,000	$ 1,204,000	$ 182,977,000	$ (54,981,660)	$ 127,995,340	DM-18
	Incentive Compensation - FirstEnergy				$ (4,151,400)	$ (4,151,400)	DM-13
	FE Service Co. Charges - LTIP				$ (8,629,446)	$ (8,629,446)	OCA-IV-52
	FE Service Co. Charges - STIP				$ (4,744,138)	$ (4,744,138)	DM-13
16	Vacancy Rate	$ -	$ -	$ -	$ (6,223,462)	$ (6,223,462)	DM-13
17	**Sub-Total**	**$ 702,190,000**	**$ 6,732,000**	**$ 708,922,000**	**$ (160,489,819)**	**$ 548,432,181**	
18	Depreciation Expense	$ 388,772,000	$ -	$ 388,772,000	$ (62,673,449)	$ 326,098,551	DM-19
	Amortization Expense	$ 125,940,000		$ 125,940,000	$ [redacted]	$ [redacted]	DM-20
19	Other	$ -	$ -	$ -	$ -	$ -	
20	Taxes Other Than Income	$ 101,924,000	$ 29,647,000	$ 131,571,000	$ (29,745,905)	$ 101,825,095	DM-21
21	**Total Operating Expenses**	**$ 1,318,826,000**	**$ 36,379,000**	**$ 1,355,205,000**	**$ (333,764,870)**	**$ 1,021,440,130**	
22	Net Operating Income Before Income Taxes	**$ 250,818,000**	**$ 467,470,000**	**$ 718,288,000**	**$ (170,084,130)**	**$ 548,203,870**	
23	State Income Taxes	$ (1,306,000)	$ 37,351,000	$ 36,045,000	$ (14,088,914)	$ 21,956,086	DM-22
24	Federal Income Taxes	$ 414,000	$ 90,325,000	$ 90,739,000	$ (34,071,239)	$ 56,667,761	DM-22
25	Deferred Income Taxe	$ 4,625,000	$ -	$ 4,625,000	$ -	$ 4,625,000	DM-23
26	**Net Operating Income**	**$ 247,085,000**	**$ 127,676,000**	**$ 586,879,000**	**$ (117,298,977)**	**$ 469,580,023**	
27	Net Operating Income Present Rates					$ 481,015,320	
28	**Rate Base**	**$ 7,165,798,000**		**$ 7,165,798,000**		**$ 6,901,224,103**	
29	Rate of Return	3.448%		8.190%		6.970%	

(1) Company FE PA Exhibit PML-1 page 25

ELECTRIC PLANT IN SERVICE

(PA Jurisdictional)

		(1) Company Proposed	Adjustments	OCA	References
	Non-Depreciable Plant	$ 33,342,000		$ 33,342,000	
1	Intangible Plant	$ 372,818,000	$ -	$ 372,818,000	
2	Transmission Plant	$ 79,547,000	$ -	$ 79,547,000	
3	Distribution Plant	$ 11,386,504,000	$ -	$ 11,386,504,000	
4	General Plant	$ 675,501,000		$ 675,501,000	
5	**Total Electric Plant In Service Balance**	**$ 12,547,712,000**	**$ -**	**$ 12,547,712,000**	OCA-VI-10 OCA-VI-11 OCA-VI-12
6	Eliminate Asset Retirement	$ (1,345,000)	$ -	$ (1,345,000)	
7	Eliminate Penelec NY	$ (24,731,000)	$ -	$ (24,731,000)	
8	Include Plant Acquisition of LIDA	$ 17,196,000	$ -	$ 17,196,000	
9	Plant - 2-year Inspection/Maintenance	$ 12,008,000	$ (9,742,340)	$ 2,265,660	OCA-IV-32
10	**Adjutment Electric Plant In Service**	**$ 12,550,840,000**	**$ (9,742,340)**	**$ 12,541,097,660**	OCA-IV-13

(1) Company FE PA Exhibit PML-1 page 6/7
Adjustment RB-1

ACCUMULATED DEPRECIATION

		(1) Company Proposed	Adjustments	OCA	References
	Non-Depreciable Plant	$ (45,000)			
1	Intangible Plant	$ 299,266,000		$ 299,266,000	
2	Transmission Plant	$ 41,436,000			
	Distribution Plant				
	Land Rights	$ 34,601,000			
3	Structures & Improvements	$ 31,925,000			
4	Station Equipment	$ 468,458,000			
5	Poles Towers & Fixtures	$ 614,209,000			
6	OH Conductors & Devices	$ 627,457,000			
7	UG Conduits	$ 50,590,000			
8	UG Conductors	$ 304,607,000			
9	Line Transformers	$ 628,945,000			
10	Services	$ 249,543,000			
11	Meters	$ 240,906,000			
12	Installation on customers premises	$ 35,866,000			
13	Leased Property on customers premises	$ 471,000			
14	Street Lighting	$ 33,959,000			
15	Asset Retirement costs	$ 137,000			
16	RWIP	$ (5,567,000)			
17	Other	$ -			
18	General Plant	$ 270,123,000			
19	**Total Accumulated Depreciation**	**$ 3,926,887,000**	**$ -**	**$ 3,926,887,000**	
20	Eliminate Asset Retirement Costs	$ (944,000)		$ (944,000)	
21	Eliminate Penelec NY Jurisdiction	$ (7,632,000)		$ (7,632,000)	
22	Include West Penn - Acquisition - LIDA	$ 10,781,000		$ 10,781,000	
23	Reserve - 2 yr cycle Inspect/maintenance	$ 123,000	$ (99,792)	$ 23,208	
24	**Adjusted Accumulated Depreciation**	**$ 3,929,215,000**	**$ (99,792)**	**$ 3,929,115,208**	
	Garrett Recommendation		$ (62,573,657)	**$ 3,866,541,551**	

(1) Company FE PA PML-1 page 12/13
Adjustment RB-2

WORKING CAPITAL ALLOWANCE
In ($000)

		(1) Expenses	Avg. Daily Exp.	Net Dollar Days	WCA	Adjustments	OCA	References
1	Revenue Lag Days							
	Expense Lag Days							
2	Payroll (Distribution Only)	$ 123,084	337.2164	34.69	$ 11,698.9	$ (1,369)	$ 10,330	
3	Pension Expense / Benefits	$ 117,423	321.7068	14.07	$ 4,526.4	$ (1,878)	$ 2,649	
4	Purchased Power /Energy	$ 2,093,219	5734.8466	17.40	$ 99,757.7		$ 99,758	
5	Annual PSC Assessment	$ 10,262	28.1151	103.84	$ 2,919.5		$ 2,920	
6	Service Company	$ 196,142	537.3753	36.15	$ 19,426.1	$ (1,325)	$ 18,102	
7	Uncollectible	$ 60,926	166.9205	0.00	$ -		$ -	
8	Other Expenses	$ 572,260	1567.8356	(3.19)	$ (5,001.4)	$ 759	$ (4,243)	
9	Sub-Total	**$ 3,173,316**	**8694.0164**		**$ 133,327.1**		**$ 129,515**	
10	Other	$ -	0.0000	$ -			$ -	
11	**Total O&M**	**$ 3,173,316**		**$ -**			**$ 129,515**	OCA-2-47
12	Federal Income Taxes	$ 90,961	249.2082	15.86	$ 3,951.20	$ (1,480)	$ 1,777	
13	State Income Taxes	$ 36,137	99.0055	15.86	$ 1,569.73	$ (612)	$ 671	
14	**Total Income Taxes**	**$ 127,098**	**348.2137**		**$ 5,521**		**$ 2,448**	
15	Payroll Taxes	$ 6,459	17.6959	32.51	$ 575	$ (8)	$ 567	
16	Ad Valorem Taxes	$ 888	2.4329	58.92	$ 143		$ 143	
17	Gross Reciepts Taxes	$ 272,262	745.9233	93.82	$ 69,981	$ (4,561)	$ 65,420	
18	PUC Realty Taxes	$ 6,100	16.7123	117.36	$ 1,961		$ 1,961	
19	Sales and Use Taxes	$ 252	0.6904	23.30	$ 16		$ 16	
20	Other Taxes	$ 1	0.0027	23.39	$ 0		$ -	
21	**Total Other Taxes**	**$ 285,962**	**783.4575**		**$ 72,677**		**$ 68,107**	
22	Interest Expenses - LT Debt	$ 151,198	414.2411	(41.25)	$ (17,085)		$ (18,131)	
23	Customer Deposits	$ 7,278	19.9397	(229.68)	$ (4,580)		$ (4,580)	
24	**Total**	**$ 158,476**	**434.1808**		**$ (21,665)**		**$ (22,711)**	
25	Prepayments	$ -			**$ 7,741**		$ 7,741	
							$ -	
26	**Total Working Capital Requirements**	**$ 3,744,852**			**$ 197,601**		**$ 185,100**	
27	**Adjustments**				$ 3,894		$ 3,894	
28					**$ 201,495**		**$ 188,994**	
		$ -					$ -	
		$ -					$ -	
		$ -					$ -	

(1) Company FE PA PML-1
Adjustment RB-4

PENSION ASSET

		(1) Company Proposed	Adjustments	OCA	References
1	**Capitalized Costs**	**$ (39,692,714)**	**$ 39,692,714**	**$ -**	
2	Accumulated Depreciation	$ 16,838,917	$ (16,838,917)	$ -	
3	Accumulated Deferred Income Tax	$ 12,728,859	$ (12,728,859)	$ -	
4	Balance	$ (10,124,938)	$ 10,124,938	$ -	
5	NY Allocation	$ (37,000)	$ 37,000	$ -	
6	**Adjusted Balance**	**$ (10,161,938)**	**$ 10,161,938**	**$ -**	OCA-IV-21 OCA-IV-48 I&E RE-21/22/23 24/25/26/27/28

(1) Company Schedule TMA-3 Attach A
FE PA Exhibit PML-1 page 24
Adjustment RB-9

ACCUMULATED DEFERRED INCOME TAXES

		(1) Company Proposed	Adjustments	OCA	References
1	Property Related	$ 1,899,718,000	$ -	$ 1,899,718,000	
2	Less Excludable Items	$ (11,423,000)		$ (11,423,000)	
3	Offset For Min. Tax Credits	$ (37,688,000)		$ (37,688,000)	
4	**Total before Jurisdiction Allocation**	**$ 1,850,607,000**	**$ -**	**$ 1,850,607,000**	
5	Less Allocation NY-Jurisdiction	$ (3,894,000)	$ -	$ (3,894,000)	
6	**Property Related ADIT as Adjusted**	**$ 1,846,713,000**	**$ -**	**$ 1,846,713,000**	
	Garrett Recommendation		$ (17,090,117)	**$ 1,829,622,883**	

(1) Company FE PA Exhibit PML-1, page 23
Adjustment RB-8

UNAMORTIZED DEFERRED AND VERIZON COMPLAINT BALANCES

		(1) Company Proposed	Adjustments	OCA	References
1	2023 Storm Reserve Balance	[redacted]			OCA-4-19
2	2024 Storm Reserve Activity				OCA-12-7
3	Balance				
4	Storm Reserve Amortization				
5	**Storm Reserve Balance**				
6	Extraordinary Storm Deferral				OCA-4-18
7	Extraordinary Storm Deferral Amortization				OCA-4-20
8	**Extraordinary Storm Deferral Balance**				
9	**Total Deferred Storm Damage**				
10	COVID-19 Deferral				
11	COVID-19 Deferred Amortization				
12	**COVID-19 Deferred Balance**				
	CONFIDENTIAL				
13	[redacted]				
14					
15					OCA-4-6
16	**Total Adjusted Balance**	**$ 233,198,000**	[redacted]		

(1) Company FE PA Exhibit PML-1, page 20
Adjustment RB-5

POWER SUPPLY EXPENSE

		(1) Company Proposed	Adjustments	OCA	References
1	**Per Budget**	**$ 2,093,218,000**	**$ -**	**$ 2,093,218,000**	
2	Adjustement to Riders	$ (2,093,218,000)		$ (2,093,218,000)	
3	**Base Rate Per Budget**	**$ -**		**$ -**	

(1) FE PA Exhibit PML-1 page 25/30

TRANSMISSION EXPENSE

		(1) Company Proposed	Adjustments	OCA	References
1	Per Budget	$ 6,580,000	$ -	$ 6,580,000	
2	Payroll Adjustment	$ 61,000	$ -	$ 61,000	OCA-IV-22
3	Service Company Payroll Adjustment	$ 4,000	$ -	$ 4,000	OCA-IV-25
4	**Total**	**$ 6,645,000**	**$ -**	**$ 6,645,000**	

(1) FE PA Exhibit PML-1 page 37
Adjustment IS-4

SALARY AND WAGES

		(1) Company Proposed			Adjustments	OCA	References
		Union	Non-Union	Total			
		Number of Employees					
		1,643	544	2,187			
1	Base Payroll - Straight Time	$ 165,534,000	$ 59,823,000	$ 225,357,000			
2	Overtime Payroll	$ 35,008,000	$ 3,341,000	$ 38,349,000		$ -	
3	Incentive Compensation - FE	$ 9,933,000	$ 3,905,000	$ 13,838,000	$ (4,151,400)		OCA-XII-4
4	**Sub-Total**	**$ 210,475,000**	**$ 67,069,000**	**$ 277,544,000**			OCA-IV-28
							OCA-V-43
5	Straight Time through Increase date	$ 2,325,190	$ -	$ 2,325,190			
6	Straight Time through Increase date	$ 246,660	$ -	$ 246,660			
7	Straight Time through Increase date	$ -	351,488	351,488			
8	Total Payroll as Adjusted	$ 2,571,850	$ 351,488	$ 2,923,338			
9	**Total Adjusted Annualized Payroll**	**$ 213,046,850**	**67,420,488**	**280,467,338**	**$ (6,223,462)**		OCA-IV-22
					vacancy adjustment		OCA-IV-24
10	**O&M Allocation**			**43.1690%**		**43.1690%**	
11	**O&M Payroll Adjustment**			**1,261,976**		$ -	
12	Transmission	$ -	$ -	$ 61,000	$ (300,817)		OCA-IV-22
13	Distribution	$ -	$ -	$ 1,124,000	$ (5,542,925)		
14	Customer Accounts	$ -	$ -	$ 37,000	$ (182,463)		
15	Customer Service	$ -	$ -	$ 20,000	$ (98,629)		
16	Sales	$ -	$ -	$ -	$ -		
17	Admin & General	$ -	$ -	$ 20,000	$ (98,629)		
18	**Total**	**$ -**	**$ -**	**$ 1,262,000**	**$ (6,223,462)**		
					vacancy adjustment		
19	**FirstEnergy Service Company Payroll**						
20	Straight Time			$ 16,286,000			OCA-IV-25
21	Straight Time Rate Increase			3.750%			
22	Straight Time Increase - Test Year			$ 610,725			
23	**O&M Allocation**			**43.7185%**		**43.7185%**	
24	**O&M Payroll Adjustment**			**$ 267,000**			
25	Transmission			$ 4,000	$ -		
26	Distribution			$ 61,000	$ -		
27	Customer Accounts			$ 23,000	$ -		
28	Customer Service			$ 38,000	$ -		
29	Sales			$ -	$ -		
30	Admin & General			$ 140,000	$ -		
31	**Total**			$ 266,000	$ -		

				Disallowance	Disallowance	
	Service Company Charges					
	Incentive Compensation	**STIP**	**LTIP**	**LTIP**	**STIP**	
32	Financial Metrics 30%	$ 4,744,138		$ -	$ (4,744,138)	
33	Safety Metrics 25%	$ 3,953,448		$ -	$ -	
34	Operational Metrics 45%	$ 7,179,462		$ -	$ -	
35	**Total**	**$ 15,813,792**	**$ 8,629,446**	**$ (8,629,446)**	**$ (4,744,138)**	
	First Energy Company Incentive					
36	Financial Metrics 30%	$ 4,151,400		$ -	$ (4,151,400)	
37	Safety Metrics - 25%	$ 3,459,500		$ -	$ -	
38	Operational Metrics - 45%	$ 6,227,100		$ -	$ -	
39	**Total - 100%**	**$ 13,838,000**	**$ -**	**$ -**	**$ (4,151,400)**	OCA-IV-2
						OCA-IV-4
					$ (27,899,845)	

(1) FE PA Exhibit PML-1 page 38
II-D-10 Attachment A

DISTRIBUTION EXPENSE

		(1) Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 319,523,000**	**$ -**	**$ 319,523,000**	
2	Payroll	$ 1,124,000		$ 1,124,000	OCA-IV-22
3	FirstEnergy Payroll	$ 61,000	$ -	$ 61,000	OCA-IV-25
4	Total Payroll	$ 1,185,000		$ 1,185,000	
					OCA-IV-19
5	Storm Expense Adjustment	$ 5,171,000	$ (1,101,423)	$ 4,069,577	OCA-IV-30/31
6	Vegetation Management Adjustment	$ 92,846,000	$ (46,423,000)	$ 46,423,000	OCA-4-10
7	Inspection & Maintenance of OH Line	$ 6,007,000	$ (4,873,604)	$ 1,133,396	OCA-4-12/14
8	Amortization on Reacquired Debt	$ 271,000	$ -	$ 271,000	OCA-14-9
9	**Total Distribution Expense Before Alloc**	**$ 425,003,000**	**$ (52,398,027)**	**$ 372,604,973**	
10	Allocation to NY	$ (808,000)	$ -	$ (808,000)	
11	**Adjusted Distribution Expense**	**$ 424,195,000**	**$ (52,398,027)**	**$ 371,796,973**	

(1) FE PA Exhibit PML-1 page 40/41
Adjustment IS-5

CUSTOMER ACCOUNTS EXPENSE

		(1) Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 30,233,000**	**$ -**	**$ 30,233,000**	
2	Payroll	$ 37,000		$ 37,000	OCA-V-22
3	FirstEnergy Payroll	$ 23,000	$ -	$ 23,000	OCA-IV-25
4	Total Payroll Adjustment	$ 60,000	$ -	$ 60,000	
5	Uncollectible Accounts	$ 17,595,000	$ (15,901,580)	$ 1,693,420	OCA-IV-34
6	Additional Customers	$ 14,000	$ -	$ 14,000	MAJ-1
					OCA-14-18
7	**Total Customer Accounts Before Alloc**	**$ 47,902,000**	**$ (15,901,580)**	**$ 32,000,420**	
8	Allocation to NY	$ (57,000)	$ -	$ (57,000)	
9	Interest on Customer Deposits	$ 7,278,000	$ -	$ 7,278,000	
10	Customer Credit Card Payment	$ 5,208,000	$ -	$ 5,208,000	OCA-IV-63
11	Other	$ -			
12	**Adjusted Customer Accounts Expense**	**$ 60,331,000**	**$ (15,901,580)**	**$ 44,429,420**	
13	Additional Uncollectible	$ 5,528,000			
14		1.100121%		1.100121%	
15				$ 16,910,605	
16				$ 186,037	

(1) FE PA Exhibit PML-1 page 42
Adjustment IS-6

CUSTOMER SERVICE & INFORMATION

		Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 20,979,000**	**$ -**	**$ 20,979,000**	
2	Payroll	$ 20,000		$ 20,000	OCA-IV-22
3	FirstEnergy Payroll	$ 38,000	$ -	$ 38,000	OCA-IV-25
4	Total Payroll Adjustment	$ 58,000		$ 58,000	
6	**Total Customer Service Before Alloc**	$ 21,037,000		$ 21,037,000	
7	Allocation to NY	$ (34,000)	$ -	$ (34,000)	
8	Low Income Outreach Program	$ 763,000	$ (763,000)	$ -	OCA-IV-64
9	Electric Vehicle Rebate	$ 7,480,000	$ (7,413,329)	$ 66,671	OCA-IV-66
10	**Adjustment Customer Service Expense**	**$ 29,246,000**	**$ (8,176,329)**	**$ 21,127,671**	OCA-XIV-7

(1) Company FE PA Exhibit PML-1 page 46

SALES EXPENSE

		Company Proposed Rates	Adjustments	OCA	References
1	**Proposed Balance at 12/31/2025**	$ -	$ -	$ -	
2	**Total**	$ -	$ -	$ -	

ADMINISTRATIVE & GENERAL EXPENSE

		(1) Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 126,370,000**	**$ (4,707,070)**	**$ 121,662,930**	
2	Payroll	$ 20,000	$ -	$ 20,000	OCA-IV-22
3	FirstEnergy Payroll	$ 140,000	$ -	$ 140,000	OCA-IV-25
4	Total Payroll Adjustment	$ 160,000	$ -	$ 160,000	
5	**Total**	**$ 126,530,000**	**$ (4,707,070)**	**$ 121,822,930**	
	Pension Adjustment				
6	Per Budget	$ 23,902,000	$ -	$ -	OCA-IV-35
7	Pension before Delayed Recognition	$ (19,130,000)	$ -	$ -	
8	Include Delayed Recognition of Actuarial Gains/Losses	$ 47,419,000	$ -	$ -	
9	**Total Pension Adjusments**	**$ 52,191,000**	**$ (44,301,884)**	**$ 7,889,116**	OCA-IV-47
	OPEB Adjustment				
10	Per Budget	$ 3,182,000	$ -	$ -	OCA-IV-35
11	OPEB before Delayed Recognition	$ (3,440,000)	$ -	$ -	
12	Include Delayed Recognition of Actuarial Gains/Losses	$ 2,471,000	$ -	$ -	
13	**Total OPEB Adjustments**	**$ 2,213,000**	**$ (4,394,404)**	**$ (2,181,404)**	OCA-IV-47
14	Employee Benefits Adjustment	$ 300,000	$ (12,000)	$ 288,000	OCA-IV-37
15	**Total A&G Allocation**	**$ 181,234,000**			OCA-IV-27
16	Allocation to NY	$ (295,000)	$ -	$ (295,000)	
17	Rate Case Expenses	$ 833,000	$ (361,302)	$ 471,698	OCA-IV-38
18	Other Adjustments -PUC/OCA/SBA	$ -		$ -	OCA-IV-23
19	**Total Balance**	**$ 181,772,000**	**$ (53,776,660)**	**$ 127,995,340**	
			0.23965%		
20	Incentive Compensation - FESC				
21	STIP	$ 15,813,792	$ -		OCA-4-4
22	LTIP	$ 8,629,446	$ -		OCA-4-4
23	DEI	$ 514,685	$ (343,140)	$ 171,545	OCA-4-7
24	ESG	$ 1,321,221	$ (1,321,221)	$ -	OCA-4-8
25	Economic Development	$ 25,317	$ (25,317)	$ -	OCA-4-9
26	Workforce Development	$ 3,017,392	$ (3,017,392)	$ -	OCA-4-9
27	Advertising	$ -	$ -	$ -	OCA-4-9
			$ (4,707,070)		

(1) Company FE PA Exhibit PLM-1 page 47
Adjustment IS-8

	DEPRECIATION	(1) Company Proposed Rates	Composite Depreciation Rates	Adjustments	OCA	References
1	**Expense Balance**	**$ 316,738,000**			**$ 316,738,000**	
2	Less Cost of Removal/Salvage Budget	$ (55,952,000)			$ (55,952,000)	
3	**Depreciation Expense Per Budget**	**$ 260,786,000**			**$ 260,786,000**	
4	Intangible Plant	$ 21,712,000	5.835%	$ -	$ 21,712,000	
5	Transmission Plant	$ 1,036,000	1.304%	$ -	$ 1,036,000	
6	Distribution Plant	$ 279,401,000	2.452%	$ (99,792)	$ 279,301,208	
7	General Plant	$ 35,532,000	5.279%	$ -	$ 35,532,000	
8	**Total**	**$ 337,681,000**		**$ (99,792)**	**$ 337,581,208**	
9	**Adjustment to Depreciation Expense**	**$ 76,895,000**		**$ -**	**$ 76,795,208**	
10	Average Cost of Removal/Salvage	$ 51,170,400		$ -	$ 51,170,400	
11	Adjustment to Cost of Removal/Salvage	$ (4,781,600)		$ -	$ (4,781,000)	
12	**Total before Allocation**	**$ 51,170,400**		**$ -**	**$ 51,170,400**	
13	Allocation to NY	$ (80,000)		$ -	$ (80,000)	
14	**Total Adjustments to Depreciation**	**$ 72,033,400**		**$ (99,192)**	**$ 71,934,208**	
15	**Adjusted Depreciation Expense**	**$ 388,771,400**		**$ (99,192)**	**$ 388,672,208**	
	Garrett Adjustment			$ (62,573,657)	**$ 326,098,551**	
				$ (62,672,849)		

(1) Company FE PA Exhibit PML-1 page 50
Adjustment 9 page 51

AMORTIZATION

		Company Proposed Rates	Adjustments	OCA	References
1	**Per Budget**	[redacted]			
	Eliminate Amortization per Budget				
2	SMT Rider Deferral				
3	Eliminate Storm Reserve Deferral				
4	Eliminate Deferred Accretion/Depreciation				
5	**Total Eliminations**				OCA-IV-39
	Amortization of Storm Reserve Balance				
6	2023/2024 Storm Reserve				OCA-IV-19
7	Amortization Period				
8	**Annual Recovery**				
	Amortize Extraordinary Storm Damage				
9	Extraordinary Storm Balance				OCA-IV-17/18
10	Amortization Period				
11	**Annual Recovery**				
	Amortize COVID-19 Regulatory Balance				
12	COVID-19 Regulatory Asset				OCA-IV-40 OCA-IV-42
	Amortize Streelight Regulatory Asset				
13	Streetlight Regulatory Asset Balance				OCA-IV-57/58
14	Amortization period				
15	**Annual Recovery**				
	Amortize Verizon Complaint				
16	[redacted]				OCA-IV-43
17					
18					OCA-4-6
19	Total Adjustments to Amortization				
20	**Adjusted Amortization**	**$ 125,941,600**	[redacted]		

(1) Company FE PA Exhibit PML-1 page 56
Adjustment IS-10 page 57

TAXES OTHER THAN INCOME

		(1) Company Proposed	Adjustments	Present Rates OCA	References
1	**Taxes Other than Income Per Budget**	**$ 103,637,000**	**$ -**	**$ 103,637,000**	OCA-IV-44
2	GRAFT Expense Per Budget	$ 243,235,000		$ 243,235,000	
3	Less GRAFT Riders Retained	$ (154,393,000)	$ -	$ (154,393,000)	
4	**Base Rates Related GRAFT**	**$ 88,842,000**		**$ 88,842,000**	
	Federal and State Payroll Taxes				
5	Payroll Expense Per Budget	$ 277,544,000	$ -	$ 277,544,000	
6	Payroll Tax Rate Per Budget	2.316389%		2.316389%	
7	Total Payroll Tax	$ 6,429,000	$ -	$ 6,429,000	OCA-IV-45
8	PURTA Tax	$ 7,019,000		$ 7,019,000	
9	Real Estate Tax	$ 1,093,000		$ 1,093,000	
10	Sales and Use Tax	$ 252,000		$ 252,000	
11	Other Taxes	$ 1,000		$ 1,000	
12	**Total Taxes Other Per Budget**	**$ 103,636,000**	**$ -**	**$ 103,636,000**	
	GRAFT Adjustment	$ -	$ -	$ -	
13	Normalized Sales Revenue	$ 1,495,300,000		$ 1,495,300,000	
14	GRAFT Rate	5.90%		5.90%	
15	GRAFT on Normalized Sales	$ 88,222,700		$ 88,222,700	
16	Less Budgeted Amount	$ (88,842,000)		$ (88,842,000)	
17	**Adjustment to GRAFT**	**$ (619,300)**		**$ (619,300)**	
	Payroll Tax Adjustment				
18	Payroll As Adjusted	$ 280,467,338	$ (9,146,799)	$ 271,320,538	
19	Payroll Tax	2.316389%		2.316389%	
20	Adjusted Payroll Tax Expense	$ 6,496,716	$ (211,877)	$ 6,284,839	
21	Adjustment to Payroll Taxes	$ 67,716		$ (144,161)	
22	O&M Allocation at	44.3028%		44.3028%	
23	**Adjustment After Allocation**	**$ 30,000**	**$ (93,867)**	**$ (63,867)**	OCA-IV-45
24	PURTA Tax Adjustment	$ 6,100,000	$ (4,738)	$ 6,095,262	OCA-IV-44
25	Less PURTA Tax Expense per Budget	$ (7,019,000)		$ (7,019,000)	
26	**Adjustment to PURTA Tax**	**$ (919,000)**	**$ (4,738)**	**$ (923,738)**	
27	Real Estate Tax Adjustment	$ 888,000		$ 888,000	
28	Less Real Estate Tax per Budget	$ (1,093,000)		$ (1,093,000)	
29	**Non-Jurisdictional Balance**	**$ (205,000)**	**$ -**	**$ (205,000)**	
30	**Total Adjustment to Taxes Other**	**$ (1,713,300)**	**$ (98,605)**	**$ (1,811,905)**	
31	**Total Taxes Other Than Income**	**$ 101,923,700**	**$ (98,605)**	**$ 101,825,095**	

Gross Receipts Tax 5.90% OCA-IV-23

(1) Company FE PA Exhibit PML-1 page 58
Adjustment IS-11 - page 59

INCOME TAXES

		(1) Company Proposed	Adjustments	Present Rates OCA	References
1	Revenues	$ 2,073,493,000		$ 1,569,644,000	OCA-IV-46
2	Operating Expenses	$ 1,355,205,000		$ 1,021,440,130	
3	**Operating Income Before Taxes**	**$ 718,288,000**	**$ (170,084,130)**	**$ 548,203,870**	
4	Rate Base	$ 7,165,798,000		$ 6,901,224,103	
5	Weighted Cost of Debt	2.10999529%		2.28%	
6	Synchronized Interest Expense	$ 151,198,000	$ 6,149,910	$ 157,347,910	
7	**Net Income Before Taxes**	**$ 567,090,000**	**$ (176,234,039)**	**$ 390,855,961**	
8	ProForma Book Depreciation	$ 337,681,000	$ (99,792)	$ 337,581,208	OCA-2-64
9	Federal Accelerated Tax Depreciation	$ 194,244,000		$ 194,244,000	
10	State Accelerate Tax Depreciation	$ 17,008,000		$ 17,008,000	
11	**State Tax Depreciation over/under book**	**$ 126,429,000**	**$ (99,792)**	**$ 126,329,208**	
12	Pro-Forma Salvage	$ 51,090,400		$ 51,090,400	
13	Tax Cost of Removal/Salvage	$ (56,147,000)		$ (56,147,000)	
14	Tax Basis Repairs	$ (134,290,000)		$ (134,290,000)	
15	Casualty Losses	$ (34,800,000)		$ (34,800,000)	
16	Section 263A Deductions	$ (75,498,000)		$ (75,498,000)	
17	Capitalized Benefits	$ (17,411,000)		$ (17,411,000)	
18	Other	$ 24,665,000		$ 24,665,000	
19	**State Taxable Income**	**$ 451,128,400**	**$ (176,333,832)**	**$ 274,794,568**	
20	**State Income Tax Rate at 7.99%**	**$ 36,045,159**	**$ (14,089,073)**	**$ 21,956,086**	
21	**Current Federal Income Taxes**				
	State Taxable Income	$ 451,128,400		$ 274,794,568	
22	State Accelerated Tax Depreciation	$ 17,008,000	$ -	$ 17,008,000	
	Less State Income Taxes	$ (36,045,159)		$ (21,956,086)	
23	**Federal Taxable Income**	**$ 432,091,241**		**$ 269,846,482**	
24	**Federal Income Tax Rate at 21.00%**	**$ 90,739,161**	**(34,071,399.3)**	**56,667,761**	
		$ 126,784,320	$ (48,160,472)	$ 78,623,847	

DEFERRED INCOME TAXES

		(1) Company Proposed	Adjustments	OCA	References
1	**Federal Deferred Income Tax - Budget**	**$ (9,465,000)**			
2	Property Related Federal DIT	$ 4,631,000			
3	Adjustment before Non-Jurisdiction allocation	$ 14,096,000			
4	Distribution DIT	$ 4,631,000			
5	Allocation to NY	$ (6,000)			
6	Adjustment to Federal DIT	$ 14,090,000			
7	**Adjusted Federal DIT per Budget**	**$ 4,625,000**		**$ 4,625,000**	

(1) Company FE PA Exhibit PML-1 page 62

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Dante Mugrace, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 1, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 25, 2024

Signature: Dante Mugrace
Dante Mugrace

Address: PCMG and Associates
90 Moonlight Court
Toms River, NJ 08753

OCA St. 1SR

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania	**)**	

SURREBUTTAL TESTIMONY OF

DANTE MUGRACE

ON BEHALF OF THE

COMMONWEALTH OF PENNSYLVANIA

OFFICE OF CONSUMER ADVOCATE

August 8, 2024

PUBLIC VERSION

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I. PURPOSE OF SURREBUTTAL TESTIMONY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dante Mugrace. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS DOCKET?

A. Yes. I submitted Direct Testimony on June 11, 2024, which was marked as OCA Statement No. 2. My qualifications and experience are attached to my Direct Testimony.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my Surrebuttal Testimony is to address the July 22, 2024, Rebuttal Testimonies of Company witnesses Ms. Savage (Statement 1-R); Mr. Smith (Statement 2-R); Ms. Larkin (Statement 3-R); Ms. Ashton (Statement 4-R); Mr. Gawlik (Statement 5-R); Mr. Jones (Statement No. 8-R); Mr. Hawkins (Statement No. 12-R); Ms. Marx (Statement 13-R; Mr. De Stiger (Statement 14-R) and the July 22, 2024 Rebuttal Testimonies of I&E witnesses Ms. Wilson and Ms. Okum. I am also making certain adjustments to proposals in my testimony and a revised calculation of the Company's revenue requirement that incorporates the effects of my adjustments. I have also updated my adjustments with respect to the Company's inquiry of errors included in my testimony and shown on Statement No. 1-R page 11 Table 1.[1] These adjustments are incorporated into my surrebuttal revenue requirement schedules. To the extent that I do not respond to or address a particular issue or argument, I defer to my Direct Testimony on those issues.

Q. HAS THE COMPANY UPDATED ITS REVENUE REQUIREMENT PROPOSAL FROM THAT OF ITS ORIGINAL FILING?

A. Yes. Company witness Ms. Larkin stated that the Company has identified parts of its initial filing that require revisions. These include updates to the Company's inspection and maintenance plan in service and depreciation expense related to the switch to a two-year inspection and maintenance cycle and Accumulated Deferred Income Taxes. (Statement

[1] Ms. Savage stated that Table 1was not to indicate the Company's agreement with any of OCA's proposals but rather to show what OCA's Exhibits, once corrected, support a revenue requirement increase that is different from the one recommended by Mr. Mugrace.

No. 3-R at 3). Ms. Larkin stated that the updated revenue requirement needed to take into account the adjustments she identified, which result in an overall increase of $9.315 million bringing the combined revenue requirement increase to $511.805 million. Ms. Larkin stated that the Company is not seeking to recover more than $502.490 million initially requested. (Statement No. 3-R at 5).

Q. WHAT DID COMPANY WITNESS MS. SAVAGE STATE REGARDING YOUR COMBINED REVENUE REQUIREMENT PROPOSAL?

A. Ms. Savage stated that my recommended revenue requirement proposal does not reflect cost causation in that I did not attempt to develop a revenue requirement for each of the rate districts. (Statement No. 1-R at 14). Ms. Savage stated that I simply created a consolidated and unified FE PA revenue requirement proposal and then split it up amongst each of rate districts on the same percentage basis as each rate district's share of the total FE PA revenue requirement increase proposed by the Company. (Statement No. 1-R at 14). Ms. Savage stated that I developed a total FE PA weighted-average gross revenue conversion factor based upon each rate district's individual gross revenue conversion factors in the same manner. (Statement No. 1-R at 14). Ms. Savage stated that this is not a proper method to determine each rate district's revenue requirement. (Statement No. 1-R at 14). Ms. Savage stated that FE PA developed a separate revenue requirement for each rate district as part of the initial filing, which reflects that the base rates set in this case are specific to each rate district and not FE PA as a whole. (Statement No. 1-R at 14-15). While there is a FE PA total revenue requirement proposal by the Company, that FE PA total revenue requirement is the sum of separately developed revenue requirements for each rate district that reflect the separate costs of service in each rate district. (Statement No. 1-R at 15). Ms. Savage stated that I made no attempt to develop a separate revenue requirement that reflects the costs of service in each rate district, making blanket adjustments to various items of rate base, revenues and expenses to arrive at OCA's proposed FE PA total revenue requirement (without any consideration to how each rate district may have contributed to each of those line items using a non-cost causative percentage). (Statement No. 1-R at 15).

Q. WHAT IS YOUR RESPONSE?

A. Ms. Savage is correct that I started from a unified singular revenue requirement and then developed rate-district specific requirements for each rate district. The Company filed this base rate proceeding under one docket number (R-2024-3047068). It could have been done the other way too – that is, develop a revenue requirement for each rate district and then sum them to get a total, but since there are a lot of common costs and since they are not seeking different expenses for different rate districts, the fact that there are four rate districts and four cost of service allocations that were used to develop individual revenue requirement balances, does not mean that the use of one singular combined revenue requirement is unreasonable. I believe that the approach I took in this case was an appropriate approach to set rates for utility service.

Q. WHAT IS YOUR PROPOSED REVENUE REQUIREMENT FOR EACH RATE DISTRICT UTILIZING YOUR COMBINED REVENUE REQUIREMENT APPROACH?

A. My proposed revenue requirement for each rate district utilizing my combined revenue requirement approach is as follows and is shown on my Exhibit DM-SR-1:

	Company Proposed	% to total	OCA Proposed as Adjusted in Surrebuttal
Met-Ed	$ 145,960,000	29.05%	$ 20,673,034
Penelec	$ 132,565,000	26.38%	$ 18,775,834
Penn Power	$ 54,617,000	10.87%	$ 7,735,675
West Penn	$ 169,348,000	33.70%	$ 23,985,592
Total FE PA	**$ 502,490,000**	**100.00%**	**$ 71,170,136**

Using the Company's revenue requirement allocations as shown on Company FE PA Exhibit PML-1 pages 25 through 29, (combined and individual adjustments) I prepared the above revenue requirement adjustments under each of the Company's 4 rate districts.

Q. CAN YOU EXPLAIN YOUR COMBINED ADJUSTMENTS TO THE COMPANY'S FILING WITH RESPECT TO RATE BASE AND OPERATING INCOME?

A. Yes. My adjustments to the Company's Rate Base adjustments under my combined recommended revenue requirement approach encompasses all the adjustments to the rate districts and these adjustments have been computed by reviewing the Company's combined Rate Base schedules and the individual Rate Base schedules for each of the 4 rate districts as shown on FE PA Exhibit PML-1 pages 4 through 24. With respect to my combined Operating Income adjustments, my recommended revenue requirement approach encompasses all the rate districts, and these adjustments have been computed by reviewing each of the Company's combined Operating Income schedules and the individual Operating Income schedules for each of the 4 rate districts as shown on FE PA Exhibit PML-1 pages 25 through 62.

Q. WHAT DID MS. SAVAGE STATE REGARDING CONSOLIDATED SAVINGS?

A. Ms. Savage stated that the PA Consolidation was effective on January 1, 2024 and many of the benefits have yet to be realized, much less quantified. (Statement No. 1-R at 23). Ms. Savage stated that the Company was unable in this base rate case to include actual savings that should be passed on to customers. The Company will continue to monitor savings consistent with the PA Consolidation Settlement Agreement and provide incremental and cumulative data quantifying those savings in future base rate cases. (Statement No. 1-R at 23). Ms. Savage stated that the amount of savings that could be realized since January 1, 2024 is not material enough to create an impact within the current base rate case. The Company will incorporate the actual savings realized in future base rate cases and provide the recommended detailed breakdown within those cases.

Q. WHAT IS YOUR RESPONSE?

A. Given that the Company has stated that the benefits and savings have yet to be realized, much less quantified, the Company should incorporate actual savings that are to be realized in a future base rate case and provide the recommended detailed breakdown within that case and future cases.

Q. WITH THE ADJUSTMENTS TO YOUR DIRECT TESTIMONY, WHAT IS YOUR REVISED COMPANY REVENUE REQUIREMENT?

A. With my revised adjustments, and to the extent that I have made adjustments to corrections that I proposed in my direct testimony, I have calculated a revenue requirement increase of $71,170,136. This includes OCA Witness Dr. Griffing's overall rate of return of 6.970% which includes a common equity cost rate component of 9.380%. I've also included adjustments related to Mr. Konidena's recommended vegetation management adjustments which I will discuss later on in my surrebuttal testimony.

II. REVENUE REQUIREMENT ISSUES

A. Rate Base Issues

Q. WHAT DID COMPANY WITNESS MS. LARKIN STATE REGARDING YOUR ADJUSTMENTS TO THE COMPANY'S RATE BASE?

A. Ms. Larkin stated that she did not agree with my adjustments to rate base totaling $264,573,000. (Statement No. 3-R at 8). Ms. Larkin stated that the appropriate witnesses would be responding to the specific adjustments addressed on page 8 of her rebuttal.

Q. WHAT IS YOUR RESPONSE?

A. I will address each of my adjustments related to my Rate Base balance and update this Rate Base balance based upon my surrebuttal recommendations as reflected throughout my surrebuttal testimony.

1. Inspection and Maintenance Cycle (I&M)

Q. WHAT DID MR. HAWKINS STATE REGARDING YOUR ADJUSTMENT TO THE COMPANY'S I&M CYCLE?

A. Mr. Hawkins stated that my claim of I&M costs in 2026 included costs from the second year of the I&M program in the Company's claim for 2025. Mr. Hawkins stated that the Company responded to the question (OCA-IV-32) which incorrectly assumed the capital costs for the first year of the program (2025) would be the same as the second year (2026). The figure that represents the 2026 amount is not included in this filing as it is beyond the test year. (Statement No. 12-R at 40).

Q. DOES THIS CHANGE YOUR ADJUSTMENT TO THE COMPANY'S I&M CYCLE CAPITAL COSTS?

A. No. I only assumed the costs in 2025 of $12.007 million to develop my adjustment to the level of capital expenditures to be recovered in the FPFTY period (2025).

Q. DID MR. HAWKINS AGREE TO YOUR AMORTIZATION PERIOD TO RECOVER THE I&M PROGRAM EXPENSES?

A. No. Mr. Hawkins did not agree with my amortization period of 5.3 years to align the period with my recommended rate case amortization period. (Statement No. 12-R at 40-41).

Q. WHAT IS YOUR RECOMMENDATION?

A. I continue to recommend that the Company be allowed to recover these capitalized costs for 2025 in the amount of approximately $12.007 million[2] over a 5.3 year period, consistent with my recommended rate case normalization period. This is shown on my Exhibit DM-SR-5.

2. Capitalized Pension and OPEB Asset

Q. WHAT HAS MS. ASHTON STATED REGARDING ITS CAPITALIZED PENSION ASSET?

A. Ms. Ashton reiterated her argument that the Company is proposing to change the recovery of both pension and OPEB costs to the delayed recognition method, which removes the current period pension and OPEB mark-to-market adjustments recognized by the Company and includes for rate making purposes a recalculated amount of pension and OPEB expenses determined by amortizing the net accumulated actuarial loss over future periods. The adoption of the delayed recognition method will also result in a need to adjust rate base for the timing differences of the immediate recognition and delayed recognition methods. (Statement No. 4-R at 2).

Q. WHAT IS YOUR RESPONSE?

A. I am continuing to recommend disallowance of the Company's capitalized Pension and OPEB costs in rate base. As I stated in my direct testimony, the Company's adjustment is

[2] Any differences between the Company's capitalized costs and OCA Mugrace's capitalized costs are due to rounding issues.

merely for the change in methodology to account for the timing differences under the immediate recognition versus the delayed recognition. While this method can be used for accounting purposes, this approach should not be used for ratemaking purposes. My adjustment is shown on my Exhibit DM-SR-5.

3. 2023/2024 Storm Reserve Balance and Extraordinary Storm Deferrals / Amortization

Q. WHAT HAS MS. LARKIN STATED REGARDING YOUR ADJUSTMENTS TO THE COMPANY'S STORM RESERVE AND EXTRAORDINARY STORM DEFERRAL?

A. Ms. Larkin stated that there was a disconnect between my testimony and exhibits that must be clarified. Ms. Larkin stated that my testimony discussed disallowances of the storm reserve balance of $208.432 million and the extraordinary storm deferral of $85.094 million but ignored the reduction to each balance related to the Company's proposed amortization expense occurring in 2025. (Statement No. 3-R at 11). Ms. Larkin stated that my Exhibit DM-10 reflects the correct amounts claimed by the Company albeit disallowing $138.955 million and $56.729 million related to the storm reserve balance and extraordinary storm deferral, respectively. (Statement No. 3-R at 11). Ms. Larkin stated that the disconnect must be recognized to avoid confusion regarding my presentation of proposed adjustments. (Statement No. 3-R at 11).

Q. WHAT IS YOUR RESPONSE?

A. To be clear, my direct testimony recommends the disallowance of the Company's Storm reserve balance of $208.432 million, and the related storm reserve amortization balance of $69.477 million for a balance of $138,955,000. My adjustment also recommends a disallowance of the extraordinary storm deferral balance of $85.094 million, and the related extraordinary storm deferral amortization of $28.365 million or a balance of $56,729,000 from rate base. The total Storm Reserve balance and the total Extraordinary Storm deferral balance is a disallowance of $195.684 million. ($138,955,000 plus $56,729,000) This is carried over to my Exhibit DM-20 where I adjust the recommended recoveries of these storm reserve and extraordinary storm deferral balances by the disallowance of 21.3% as discussed by OCA witness Mr. Konidena.

Q. WHAT DID MS. LARKIN STATE REGARDING YOUR DISALLOWANCE OF THE UNAMORTIZED STORM RESERVE BALANCE?

A. Ms. Larkin stated that she was advised by counsel that whether or not the Commission will permit a utility to earn interest or a return on the unamortized balance for amortized expenses is discretionary in nature. Ms. Larkin stated that it is appropriate for the Commission to exercise this discretion and permit FE PA to include these unamortized balances of amortized expenses in rate base. (Statement No. 3-R at 12). Ms. Larkin stated that the relative impact of fully expensing the Company's storm reserve and extraordinary storm deferral balance in the FPFTY would be an increase of $188.3 million to the Company's revenue requirement. (Statement No. 3-R at 12).

Q. WHAT DID MS. LARKIN STATE REGARDING YOUR DISALLOWANCE OF THE UNAMORTIZED EXTRAORDINARY STORM DEFERRAL BALANCE IN RATE BASE?

A. Ms. Larkin again stated that she was advised by counsel that whether or not the Commission will permit a utility to earn interest or a return on the unamortized balance for amortized expenses is discretionary in nature. (Statement No. 3-R at 12). Ms. Larkin again stated that the Company believes that it is appropriate for the Commission to exercise this discretion and permit the Company to include these unamortized balances of amortized expenses in rate base. (Statement No. 3-R at 12). Ms. Larkin stated that the relative impact of fully expensing the Company's extraordinary storm deferral balance in the FPFTY would increase the Company's revenue requirement. (Statement No. 3-R at 12).

Q. WHAT IS YOUR RESPONSE?

A. I am continuing to recommend disallowance of these storm reserve balances and the extraordinary storm deferred balances in rate base. The Company has not provided sufficient information that the Commission should allow or direct that these costs also be recovered in rate base for purposes of earning a return. These storm reserve balances and the extraordinary storm deferral balances should solely be recovered as an expense item and amortized over an appropriate period of time. As I testified in my direct testimony, the Commission has stated that the Company will continue to recover these storm and

extraordinary storm costs by the use of a five-year average of historical expenses. (Mugrace OCA Statement 1, page 16). [3]

Q. WHAT DID MR. HAWKINS STATE REGARDING THE NEED FOR THESE STORM RESERVE ACCOUNTS?

Q. Mr. Hawkins stated that due to volatility of storms, a storm reserve account provides a means to recover those expenses while allowing the utility to earn an allowable rate of return. It would be a burden to the Company and ratepayers if costs were not able to have some reserve accounting treatment and be reconciled via an amortization. (Statement No. 12-R at 42). Mr. Hawkins further asserts that a storm reserve accounting is a reasonable means to ensure the Company recovers prudently incurred storm-related expenses. The Company does not have a rider mechanism that permits it to automatically recover the storm costs it incurs, which are not otherwise recovered in base rates. (Statement No. 12-R at 42). Finally, he asserts that to the extent that the Company is not permitted to continue the use of its storm reserve account in the manner previously approved, the Company would alternatively request that it be permitted to implement a rider mechanism that permits it to automatically recover the storm costs it incurs which are otherwise not recovered in base rates. (Statement No. 12-R at 42).

Q. WHAT DID MR. HAWKINS STATE WITH RESPECT TO THE ESTABLISHMENT AND MAINTAINTANCE OF A STORM RESERVE ACCOUNT?

A. Mr. Hawkins stated that in the 2014 base rate case, the Joint Petition for Partial Settlement of Rate Investigation term and condition 5 directed that a Storm Reserve Account will be established and maintained on the Company's balance sheet beginning on the date the settlement rates become effective. These expenses were to be recorded in the storm reserve account to eliminate any impact on the Company's income statement. (Statement No. 12-R at 43). In 2016, the Joint Petition for Partial Settlement of Rate Investigation, term and condition 16 directed the Company to continue to maintain a Storm Reserve Account on the Company's balance sheet. (Statement No. 12-R at 43). Mr. Hawkins stated that OCA

[3] Settlement Order in Docket No. R-2014-2428745 dated April 9, 2015, page 26.

has not conducted a reasonable review of these costs but instead has generally opposed the Company's ability to fully recover the costs. (Statement No. 12-R at 43).

Q. WHAT IS YOUR RESPONSE?

A. I disagree with Mr. Hawkins. While I understand why the Company wants to ensure that it receives recovery, it should be understood that a storm reserve account is an exception to traditional ratemaking, it is not the norm, and these costs certainly should not be included in rate base. As stated previously, I am continuing to recommend disallowance of these storm reserve balances and the extraordinary storm deferred balances in rate base. Again, the Company has not provided sufficient information that the Commission should allow or direct that these costs also be recovered in rate base for purposes of earning a return. (Commission Docket No. R-2014-2428745 dated April 9, 2015 page 26). These storm reserve balances and the extraordinary storm deferral balances should solely be recovered as an expense item and amortized over an appropriate period of time. As I testified in my direct testimony, the Commission has stated that the Company will continue to recover these storm and extraordinary storm costs by the use of a five-year average of historical expenses. (Mugrace OCA Statement 1 page 16). I do not see where the Commission has allowed these costs to be recovered through rate base, including earning a return on these costs, as well as through expense recovery.

Q. WHAT IS YOUR RESPONSE WITH RESPECT TO THE COMPANY'S PROPOSAL TO ALLOW A RIDER MECHANISM TO RECOVER STORM COSTS?

A. With respect to the Company's proposal to implement a storm rider mechanism, I am recommending rejection of that proposal. There is no need to implement such a mechanism, when the current recovery mechanism established by the Commission provides sufficient and reasonable recovery of storm costs. The Company has the opportunity to recovery all reasonable costs in its revenue requirement, but there is no guarantee of one hundred percent recovery of all expense items. My recommendation continues to allow the Company to recover these costs as an expense item only and be amortized over an appropriate period of time.

4. COVID -19 Deferral

Q. WHAT HAS MS. LARKIN STATED REGARDING YOUR DISALLOWANCE OF THE COMPANY'S COVID-19 COSTS IN RATE BASE?

A. Ms. Larkin stated that there was a disconnect between my direct testimony and exhibits that must be clarified. Ms. Larkin stated that my direct testimony discusses disallowances of the COVID-19 deferral of $30.383 million but the testimony ignored the reduction to the balance related to the amount of FE PA's proposed amortization expense occurring in 2025. (Statement No. 3-R at 13).

Q. WHAT IS YOUR RESPONSE?

A. To be clear, my direct testimony recommends the disallowance of the Company's COVID-19 balance of $30.383 million and the related COVID-19 annual Deferral Amortization of $10.128 million from rate base for a total rate base disallowance of $20.255 million. This is shown on my Exhibit DM-SR-10. My recommendation allows only for the expense recovery of $30.383 million amortized over the same period of time as I am recommending normalizing rate case expenses or 5.3 years. This is shown on my Exhibit DM-SR-20.

Q. WHAT ELSE DID MS. LARKIN STATE REGARDING YOUR DISALLOWANCE OF THE COMPANY'S COVID-19 COSTS IN RATE BASE?

A. Ms. Larkin stated that the rate districts were following the Commission directive to keep all customers' electricity flowing during the pandemic and incurred costs in doing so. (Statement No. 3-R at 14). Ms. Larkin stated that deferral and subsequent amortization of those expenditures delayed the Company's recovery of actual cash outlays for significant intervals. Ms. Larkin stated that during the deferral and amortization of those costs, the rate districts have made investments which they will not recover fully until the completion of the amortization period. (Statement No. 3-R at 13). Ms. Larkin stated that the investment carries a cost, the time value of money, which for a utility is its weighted average cost of capital represented by its allowed rate of return. The Company's claim to include the unamortized COVID-19 balance in rate base and recover a return on those amounts reflecting the time-value cost it is incurring is no different. (Statement No. 3-R at 14). Absent recognition of that time-value cost, the amount recovered, while normally

the same as the costs incurred, is in real dollars of present value, far less than the rate districts expended. (Statement No. 3-R at 14).

Q. WHAT IS YOUR RESPONSE?

A. These are expenses, not capital costs. They are already getting treatment that is different than other expenses in that they were allowed to be deferred and recovered retroactively. The Company is not entitled to a return on these expenses, only a return of them. I continue to recommend disallowance of COVID-19 costs in rate base. As I stated in my direct testimony, these types of costs were extraordinary in nature and unusual in occurrence and not the types of expenditures that the Company typically incurs in the normal day to day operations of a public utility. These costs should solely be recovered through an expense amortization and recovered between rate cases with no opportunity to earn a return on these expenses. The Company's COVID-19 costs are made up of expenses such as uncollectible accounts, late payment charges, reconnection charges, bill assistance, mailings and postage and other outbound dial campaign related costs. The Company should not be allowed to earn a return (akin to cash working capital) on such expenses as they are not of a continuing nature in its day-to-day operations. These costs are temporary in nature and will not remain on the Company's books and records, as with all other expenses that are used and useful in the normal daily operations of utility service. As I stated in my direct testimony, the Company did not apply for any federal or state COVID-19 relief money. Ratepayers should not carry the full burden to pay for these costs absent any offsets from such state or federal funding. My recommendation is shown on my Exhibit DM-SR-20.

5. Verizon Complaint

Q. WHAT DID MS. SAVAGE STATE REGARDING YOUR DISALLOWANCE RELATED TO THE VERIZON COMPLAINT?

A. Ms. Savage did not agree with my disallowance of the Company's proposed recovery of its Verizon complaint. (Statement No. 1-R at 21). Ms. Savage stated that although the case is on appeal to the Pennsylvania Supreme Court, Ms. Savage is advised by counsel that the Commission's December 18, 2020 Opinion and Order was not stayed pending appeal, and therefore, as it currently stands, the Commission's December 18, 2020 Opinion and Order is still effective. (Statement No. 1-R at 22). Ms. Savage stated that incumbent

local exchange carriers (ILECs) have a different relationship with the electric utility and use the electric utility's facilities differently than non-ILEC attachers and the rates should reflect that. The rental revenues received by attachers go to pay for the portion of the electric utility's pole plant utilized by the attachers and in so doing, reduce the cost to electric customers for the use of the electric utility's facilities. (Statement No. 1-R at 22). Ms. Savage stated that if the Company were denied the deferred recovery of the refunds and lost revenues related to the retrospective and prospective cancellation of the negotiated rates with ILEC attachers, the Commission would in essence be encouraging electric utilities to capitulate to the rate demands of pole attachers and not dispute whether the pole attachers are eligible to receive a lower pole attachment rate under the Commission's regulations to the detriment of electric customers. (Statement No. 1-R at 22).

Q. WHAT IS YOUR RESPONSE?

A. I am not arguing that the Company should not be able to recover these costs in rates at any point in time, but rather, my argument is that this issue has not come to fruition in order for the Company to begin recovery. The collection is premature because these costs are still not known and measurable and are speculative, until such time as the Supreme Court rules on the disposition of the case. Once the outcome of the litigation with Verizon is more certain, the Company can seek recovery of these costs in its next base rate case proceeding. My recommendations is reflected on my Exhibit DM-SR-10.

6. Accumulated Deferred Income Taxes (ADIT)

Q. WHAT DID COMPANY WITNESS MR. GAWLIK STATE REGARDING YOUR CALCULATION WITH RESPECT TO ACCUMULATED DEFERRED INCOME TAXES?

A. Mr. Gawlik did not agree with my adjustments to the Company's ADIT balance. (Statement No. 5-R at 3). He stated that my use of a 27.312% composite rate to derive the ADIT balance of $17,090,117 is incorrect and that I should have used a 21% tax rate. The Company only includes plant related ADIT in rate base at the federal tax rate of 21% because the state income tax benefits associated with accelerated tax depreciation and other deductions are immediately flowed through to customers and not normalized. (Statement No. 5-R at 4). Mr. Gawlik stated that since I used the 27.312% composite rate to calculate

OCA witness Mr. Garrett's proposed decrease to book depreciation, it should have the opposite effect, causing ADIT to increase. (Statement No. 5-R at 4).

Q. WHAT IS YOUR RESPONSE?

A. I have corrected my income tax rate to 21% to calculate the adjustments with respect to the change in the accumulated depreciation of $62,573,657 and calculated an ADIT adjustment of $13,140,468. This is shown on my Exhibit DM-SR-9.

7. Cash Working Capital (CWC)

Q. WHAT HAS THE COMPANY STATED REGARDING YOUR CASH WORKING CAPITAL CALCULATION?

A. Company witness Ms. Savage stated that the Company was able to determine mathematical and accounting errors in my Exhibits to the revenue requirement. (Statement No. 1-R at 10). She provided a Table 1 which noted that errors were present in my CWC Exhibit DM-13. Ms. Savage, however, did not specifically identify these errors, only showing that the revenue requirement impact would be $2,536,000. (Statement No. 1-R at 11).

Q. WHAT IS YOUR RESPONSE?

A. I reviewed my Exhibit DM-13 and have corrected any errors or miscalculations. My adjustments are reflected in my Exhibit DM-SR-13. The adjustments reflect my changes to the Company's expenses including income taxes, taxes other than income taxes, and rate base items.

B. OPERATING INCOME

1. OPERATION AND MAINTENANCE EXPENSES

a. Payroll Expense/Payroll Taxes/Vacancy Rate

Q. WHAT DID MS. MARX STATE REGARDING YOUR USE OF A VACANCY RATE TO ADJUST SALARY AND WAGES?

A. Ms. Marx did not agree with my use of a vacancy rate adjustment. (Statement No. 13-R at 3). Ms. Marx stated that it is not appropriate to single out one historical component of labor and apply a reduction to other costs. Although there may be a vacancy rate, which is

expected and normal in day-to-day operations, it is not appropriate to isolate the historical performance of one component of labor costs. When there is a lower headcount than planned, the portfolio of customer-focused and reliability work is still completed with existing employees on overtime, or FE PA retains contractors to complete the work. Ms. Marx stated that with respect to payroll expenses, applying a headcount factor to labor costs does not take into consideration the actual cost of the employee in terms of salary which is the foundation for payroll taxes. (Statement No. 13-R at 4). Applying a vacancy rate adjustment would negatively impact the Company's ability to obtain the necessary resources to complete the portfolio of work utilizing projected employee headcount, which will result in incurring additional costs related to overtime and contractors as well as employee retention than can be recovered through rates. (Statement No. 13-R at 4).

Q. WHAT IS YOUR RESPONSE?

A. In all organizations, there will always be a level of vacancies that will not be filled at any given point of time. This is inherent in all companies and is a natural order of business. The level of employees varies periodically in a single year because employees leave, retire, get fired, pass away, get laid off or the Company eliminates the positions. The Company's prior vacancy rate ratios as shown in response to OCA Set -IV-24, show that in the past, a number of vacancies were present. The level of employees is determined based upon the number of employees needed to perform the work assignments, the level of productivity needed to be achieved, the areas in which staff appears to be over or under worked and the replacement of employees who are underperforming. By not incorporating a vacancy rate ratio to adjust employee count in the FPFTY period, there could be a situation where the Company could over-earn in the event that no additional employees were hired. I am continuing to recommend a vacancy rate ratio of 2.36% to develop an adjustment to the Company's payroll of $6,223,462. This is shown on my Exhibit DM-SR-13.

b. Incentive Compensation / Stock Compensation

Q. WHAT DID COMPANY WITNESS MS. MARX STATE REGARDING YOUR ADJUSTMENT TO INCENTIVE COMPENSATION?

A. Ms. Marx did not agree with my disallowance related to the STIP of $4,744,138 and the LTIP of $8,629,446. (Statement No. 13-R at 4). Ms. Marx stated that my adjustment

attempts to evaluate these incentive compensation programs in isolation and that singling out and disallowing aspects of overall compensation plan costs should be rejected because it disregards the fact that the Company is entitled to recover in rates all costs reasonably necessary to provide electric service. (Statement No. 13-R at 5). To serve its customers, the Company must be able to recruit and retain qualified employees, managers, executives and directors and its ability to do so is directly related to its ability to provide reasonable and competitive compensation to qualified individuals. (Statement No. 13-R at 5). Attempts to isolate specific aspects of incentive compensation programs are contrary to how the PUC evaluates these programs as a whole. The attempt to disallow certain aspects of overall compensation would harm the Company's ability to recruit qualified individuals and would fail to provide just and reasonable rates. (Statement No. 13-R at 5).

Q. WHAT DID MS. MARX STATE REGARDING YOUR DISALLOWANCE TO THE COMPANY'S STIP AND LTIP COSTS?

A. Ms. Marx disagrees with my proposals in that the STIP and LTIP are critical to ensuring the Company attracts new strong talent and retains current employees. STIP and LTIP goals are aligned to external benchmarking and the organization's core values, and are focused on operational, customer and financial performance. If the incentive programs would be disallowed, employee base pay would be increased to maintain competitiveness. This would remove the variable component of pay that is aligned with the Company's value of performance excellence. (Statement No. 13-R at 9).

Q. WHAT HAS MS. MARX STATED WITH RESPECT TO INCENTIVE COMPENSATION BENEFITTING CUSTOMERS?

A. Ms. Marx stated that she was advised by counsel that a utility is not required to demonstrate that these programs benefit customers. Rather, they must show that an expense is reasonable, prudently incurred and not excessive in amount. Ms. Marx stated that all areas of the STIP and LTIP programs are related to safe and reliable electric service. The financial goals demonstrate achieving strong financial performance which provides the financial resources for operational success. Strong financial performance also delivers an internal source of capital which supports the Company's ability to fund its investment strategy focused on safe and reliable electric service. (Statement No. 13-R at 11-12).

Q. WHAT IS YOUR RESPONSE RELATED TO MS. MARX'S CLAIM THAT YOUR REMOVAL OF A PORTION OF THE STIP AND DISALLOWANCE OF THE COMPANY'S LTIP STOCK COMPENSATION IS UNJUST AND UNREASONABLE?

A. I believe that a portion of these incentive compensation and stock compensation costs are geared toward executives, vice-presidents and managers of the Company (non-union) and are focused on financial performance such as increased operating income, achieving an earnings per share dollar amount and on the investment community with respect to acquiring sources of capital. I note that the Company has the right and the opportunity to provide its employees with market-based and comparable compensation to what other companies offer. While the Company assumes that such compensation may be a fair and reasonable level to include in rates, there should be no assumption that all of these costs should be recovered. The Company has the opportunity to recover these costs for ratemaking purposes only if they are prudent and reasonable and to the benefit of ratepayers. It is not the responsibility of ratepayers to be required to cover the costs related to financial performance and the overall business plan process, as it is clearly the responsibility of the Company to share in the burden of absorbing these costs. The Company should not have unfettered access to ratepayers' money when the underlying costs do not benefit the ratepayers and are not customer-oriented benefits. I am not arguing for eliminating these costs from rates, but rather that the costs related to financial metrics and business planning should be a risk that the Company bears. While I understand the importance of providing incentive compensation to employees, I do not believe that certain incentive costs should be recoverable from ratepayers when the incentive does not provide any specific benefits in the form of customer service, satisfaction, safety or reliability to ratepayers. I believe that certain types of incentive compensation should only be recovered from ratepayers if it provides such benefits as described above. In my opinion, part of the Company's argument is that in order to provide safe and reliable service to customers, it has to incent employees. This appears to be an all-or-nothing approach to compensation in that, without appropriate compensation (100% of the Company's claim), employees would not be able to perform their duties or be good financial stewards.

Q. WHAT HAS I&E WITNESS MS. OKUM STATED REGARDING YOUR INCLUSION OF SERVICE COMPANY INCENTIVE COMPENSATION?

A. Ms. Okum stated that the Company's Service Company Charges – Incentive Compensation as shown on I&E Statement No. 1 at 25 and in response to OCA-IV-4 in the amount of $24,443,237 ($15,813,792 related to the STIP and $8,629,446 related to the LTIP) should be disallowed in its entirety. Ms. Okum stated that both the STIP and LTIP are paid to employees who do not work directly for the utility and are generally not performing operations services. Further, they are based on earnings per share metrics or aligned with shareholder interests and do not relate to the safe and reliable distribution of service and should not be passed through to ratepayers. (I&E Statement No. 1 at 26).

Q. HOW DID MS. OKUM DETERMINE THAT STIP AWARDS ARE CONTINGENT UPON THE COMPANY ACHIEVING THE OPERATIONAL EARNINGS THRESHOLD LEVEL AFTER ACCOUNTING FOR THE COST OF THE PAYOUT?

A. Ms. Okum pointed to the response to OCA-IV-2 in which the Company provided key pages of the STIP document indicating that **(BEGIN CONFIDENTIAL)** [redacted] **(END CONFIDENTIAL).**

Q. WHAT IS YOUR RECOMMENDED OVERALL INCENTIVE COMPENSATION ADJUSTMENT?

A. After a review of Ms. Okum's direct testimony (Statement No. 1 at 25) and her rebuttal testimony (Statement No. 1-R at 9), I am accepting Ms. Okum's disallowance of the Company's Service Company Incentive Compensation of $24,443,237. I am continuing to disallow incentive compensation costs for the Company- incentive compensation costs of $4,151,400 related to FirstEnergy Company incentive – Financial Metrics. This total is a reduction of $28,594,637 as shown on my Exhibit DM-SR-13.

c. Pension and Post-Retirement Benefits (OPEB)

Q. WHAT HAS MS. ASHTON STATED IN REGARD TO YOUR PENSION AND POST-RETIREMENT BENEFITS ADJUSTMENT?

A. Ms. Ashton stated that I did not provide a compelling argument as to why a historical average of costs under the delayed recognition methodology is appropriate, nor a basis for the use of a five-year historical period in my calculation. (Statement No. 4-R at 8). She stated that my testimony noted that the value of pension and OPEB expenses (credits) calculated under the delayed recognition over the five-year historical period can vary significantly. Ms. Ashton stated that this highlights the volatility in pension and OPEB costs that she has described in her testimony and further supports the proposed need for a pension and OPEB normalization mechanism (PON). (Statement No. 4-R at 8). She stated that interest rates and asset returns are key factors driving changes in the annual pension and OPEB expenses under the delayed recognition method both of which will be neutralized for ratepayers with the adoption of the PON. (Statement No. 4-R at 8).

Q. WHAT DID I&E WITNESS MS. WILSON STATE REGARDING YOUR ADJUSTMENTS TO THE COMPANY'S PENSION AND OPEB COSTS?

A. Ms. Wilson stated it was not entirely clear to her what I was recommending since my referenced OCA-IV-47 supported my adjustment to pension expense but stated that interrogatory addressed OPEBs. (I&E Statement No. 4-R at 4-5). Ms. Wilson stated that it was not clear to her whether I accepted the proposed delayed recognition method and whether my proposed normalization uses numbers associated with the delayed recognition methodology, or if I used some other method. (I&E Statement No. 4-R at 5). Ms. Wilson did not agree with my recommended methods to determine pension and OPEB expense allowance.

Q. WHAT IS YOUR RESPONSE?

A. I reviewed Ms. Wilson's direct testimony (I&E Statement No. 4) in which she recommended a five-year historical average of cash contributions similar to the Company's claim in historical rate filings. Ms. Wilson stated that the intent of continuing the cash contributions method is to avoid unnecessary complications for ratemaking in the method, that is, not moving to a method that is difficult for regulators to verify. (I&E Statement

No. 4 at 21-22). After reviewing her direct testimony and her rebuttal testimony where she recommended that the Company should not deviate from its method for pension and OPEBs used in prior rate cases which is based upon recovery of the service cost component (I&E Statement No. 4-R at 5), I am accepting her recommendation for the use of a five-year historic cash contributions method. This results in a total allowance of $19,657,000 (I&E Statement No. 4 at 20). My adjustment is shown on my Exhibit DM-SR-18.

Q. WHAT IS YOUR RESPONSE WITH RESPECT TO THE COMPANY'S OPEB COSTS?

A. I reviewed Ms. Wilson's testimony (I&E Statement No. 4) in which she recommended that the Company should not deviate from its method used in prior cases which is based upon recovery of the service cost component. (I&E Statement No. 4 at 23). She stated that the Company has not made any cash payments to the OPEB plans from 2014-2023, thus any allowance of $39,694 for the service cost component is more than reasonable. (I&E Statement No. 4 at 23). Ms. Wilson recommended this balance using a five-year historical average of OPEB expenses (I&E Statement No. 4 at 20). I am accepting her recommendation for use of the five-year historic cash contributions method. This results in a total allowance of $39,694. (I&E Statement No. 4 at 20). My adjustment is shown on my Exhibit DM-SR-18.

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THE COMPANY'S PON MECHANISM PROPOSAL?

A. I am recommending disallowance of this mechanism for pension and OPEB recovery. I am accepting I&E Witness Ms. Wilson's argument that this PON mechanism would be unnecessary if the Company is not allowed to switch to the newly proposed method which records the amortization of net gains and losses. (I&E RE 4 at 29). I am also accepting Ms. Wilson's argument that the yearly contributions, as determined by an actuary for the Company's pension, would take into consideration yearly amounts necessary to address any potential future highs or lows in investment. (I&E Statement No. 4 at 29).

d. Low Income Outreach Program (Energy Assistance Outreach Team)

Q. WHAT HAS MR. JONES STATED REGARDING DISALLOWANCE OF THE COMPANY'S ENERGY ASSISTANCE OUTREACH TEAM (EAOT)?

A. Mr. Jones stated that he does not agree that these costs should be funded by shareholders. (Statement No. 8-R at 13).

Q. WHAT IS YOUR RESPONSE?

A. As more fully described in Mr. Colton's surrebuttal, he continues to disallow costs related to the Company's proposed EAOT. My adjustments are related to the recommendation of Mr. Colton. This is shown on my Exhibit DM-SR-16.

e. Vegetation Management / Storm Expense

Q. WHAT HAS MR. HAWKINS STATED WITH REGARD TO YOUR ADJUSTMENT TO THE ENHANCED VEGETATION MANAGEMENT COSTS?

A. Mr. Hawkins stated that although I and OCA witness Mr. Konidena opposed the Company's vegetation management expenses claimed in the FPFTY, there was also an acknowledgment that the Company's reliability has historically been significantly impacted by vegetation-related outages. (Statement No. 12-R at 10). The Company has specifically discussed the need to perform more extensive vegetation management to address its reliability and identified that in order to complete the additional and enhanced work it needs to deploy additional resources. (Statement No. 12-R at 11). The enhanced vegetation management program that serves as the basis for the Company's vegetation management expense claim in this case is being sought in recognition of the need to perform additional and enhanced vegetation management work to promote the safety and reliability of the Company's distribution system. (Statement No. 12-R at 11). Mr. Hawkins did not agree with OCA's adjustment to reduce vegetation management costs by 50% from the Company's proposed expense balance of $92,846,000. (Statement No. 12-R at 15).

Q. WHAT IS YOUR RESPONSE?

A. As discussed by Mr. Konidena, the OCA's position on this matter has not materially changed. I would note that in Mr. Hawkins' Rebuttal testimony at pages 18 and 19 he provides the projected costs for each of the ten years of the Enhanced Vegetation

Management Plan. To be clear, the OCA does not agree that a ten-year plan should be authorized at this time. The Company has stated its intent to file another rate case in three years. Consistent with Mr. Konidena's testimony, I am revising my adjustment to allow 50% of the first three years' average spend for the enhanced vegetation program, which is $48,305,000. At the Company's next rate case, all parties will have an opportunity to review the results of the enhanced plan. My adjustment is shown on my Exhibit DM-SR-14.

f. Electric Vehicle Rebate

Q. WHAT HAS THE COMPANY STATED WITH RESPECT TO YOUR ADJUSTMENT TO THE COMPANY'S ELECTRIC VEHICLE REBATE?

A. Company witness Mr. Jones did not agree with the disallowance of the Company's proposal related to the EV Pilot Program as recommended by OCA Witness Ms. Alexander. (Statement No. 8-R at 41).

Q. WHAT IS YOUR RESPONSE?

A. As more fully described in Ms. Alexander's surrebuttal, she continues to disallow costs related to the Company's EV Pilot Program. My adjustments are related to the recommendation of Ms. Alexander. This is shown on my Exhibit DM-SR-16.

g. Rate Case Expenses

Q. WHAT HAS MS. LARKIN STATED REGARDING YOUR ADJUSTMENTS TO RATE CASE EXPENSES?

A. Ms. Larkin stated that my adjustment of 5.3 years does not give appropriate consideration to the fact that during approximately 56% of the historic period that I analyzed, (1992-2010) the rate districts were under rate caps or rate freezes which limited their ability to file base rate cases. (Statement No. 3-R at 19). Ms. Larkin stated that the Company anticipates filing rate cases every three years, given current and anticipated levels of investment in new plant and equipment, and it is not realistic to expect the Company to delay a subsequent rate case for as long as Mr. Mugrace assumes as the basis for his proposed normalization period. (Statement No. 3-R at 19).

Q. DO YOU HAVE ANY ADJUSTMENTS?

A. The Commission normalizes rate case expenses for ratemaking purposes. The Commission looks to the historical filing frequency to determine the proper normalization period. The fact that the Company was under a rate freeze or rate cap does not change the fact that the Commission normalizes rate case expenses based upon the Company's historical filings. If the Company anticipates filing its next base rate case in three-years, then the normalization period will eventually catch up to the Company's projections.

h. Economic Development / Workforce Development

Q. WHAT HAS MR. SMITH STATED REGARDING YOUR ADJUSTMENTS TO THE ABOVE EXPENSES ITEMS?

A. Mr. Smith stated that he did not agree with my disallowance of these costs. Mr. Smith stated that the goal of FirstEnergy's economic development program is to strengthen the economic base of its service territory and encourage investment in its footprint. (Statement No. 2-R at 7). Mr. Smith stated that economic development costs support Pennsylvania's economy and tax base. Programs and services utilized by the economic development team provide support to local economic development partners and aid in both the attraction of new businesses and retention of existing customers, who in turn provide more direct and indirect job opportunities and add to the quality of life in the communities where they live, work and play. (Statement No. 2-R at 7). With respect to workforce development, Mr. Smith stated that my statements that workforce development costs are related to all workforce employees is incorrect. Mr. Smith stated that the costs included in this filing are all internal training costs specific to the training costs of FE PA employees. (Statement No. 2-R at 8). The vast majority of these costs are for training of primarily bargaining unit employees in the operation of systems and equipment used by those employees (Statement No. 2-R at 8). This training is specifically designed to provide safe and reliable service to Pennsylvania customers. (Statement No. 2-R at 8).

Q. WHAT IS YOUR RESPONSE?

A. I believe that none of the above costs related to economic development provide benefits to ratepayers, but rather provide benefits to the Company in the form of corporate stewardship. These types of economic development costs should be absorbed by the

Company and not passed on to ratepayers through rates. With respect to costs related to supporting local economic development partners, and the recruiting of employees, these costs should be absorbed by the Company and ratepayers should not be responsible for paying costs that are clearly within the Company's realm. These types of economic development costs are not the sort of regulated public utility expenditures that ratepayers should be required to pay as these types of costs are not related to utility service. These types of costs are akin to a form of contribution to the community, which clearly are not related to utility service. Ratepayers should not be paying for these types of costs which are not related to employee duties and performance, particularly when the costs are so far outside the spectrum of utility service that they extend to providing support to communities which are clearly outside the Company's normal course of business. These types of costs should be the responsibility of state and local governments. These costs should be wholly borne by the Company or through a collaboration with local, state and municipal entities. The Company is in their right to be a good corporate citizen, and I commend them for this approach, but for ratemaking purposes these costs should not be borne by ratepayers. My recommendation related to economic development costs is shown on my Exhibit DM-SR-18. I note that my adjustments include all of the Company's economic development costs for all 4 rate districts or a disallowance of $78,158.

Q. WHAT ADJUSTMENTS DO YOU HAVE WITH RESPECT TO WORKFORCE DEVELOPMENT?

A. After a review of Mr. Smith's rebuttal on workforce development I am accepting the Company's reasoning for and inclusion of these costs in rates, except for costs related to incentive compensation that are identified in response to OCA-Set IV-9, Attachment B. These costs amount to $369,768 for all of the Company's 4 rate districts. The Company has not identified how these incentive compensation costs were developed, nor has it identified whether these incentive compensation costs benefit ratepayers. While Mr. Smith has supported the need to include workforce development in rates, he has not provided any rebuttal testimony in support of including incentive compensation. This adjustment is shown on my Exhibit SR-DM-18.

i. DEI / ESG Costs

Q. WHAT HAS COMPANY WITNESS MR. SMITH STATED REGARDING YOUR ADJUSTMENTS TO DEI AND ESG COSTS?

A. Mr. Smith did not agree with my disallowance of two-thirds of DEI costs and one hundred percent of ESG costs in base rates. (Statement No. 2-R at 2). With respect to DEI costs, Mr. Smith stated that I provided no explanation of what OCA policy I am following nor any explanation as to how disallowing DEI costs is consistent with the PUC's Diversity Policy Statement. (Statement No. 2-R at 3). Mr. Smith stated that my position ignores the fact that the PUC recently issued specific regulations that require utilities to report on how they are achieving the specific recommendations set forth in the Diversity Policy Statement. Mr. Smith stated that I cite how DEI initiatives benefit customers but do not actually dispute or attempt to rebut any of these benefits. Mr. Smith stated that I do not acknowledge that these initiatives support the communities where the Company serves by embodying a workforce that is reflective of the communities it serves and also helps strengthen the economy in FE PA's footprint. Mr. Smith stated that I made a blanket assertion that these initiatives solely benefit the Company. (Statement No. 2-R at 3).

Q. WHAT DID MR. SMITH STATE ABOUT YOUR DISALLOWANCE OF ONE HUNDRED PERCENT RELATED TO ESG COSTS?

A. Mr. Smith stated that he disagreed with my removal of ESG costs in rates and stated that the Company should be permitted to recover these costs because ESG is a responsible business strategy and guides the Company's commitment to serve its customers every day with safety, sustainability, affordability and community vitality in mind. (Statement No. 2-R at 4). Mr. Smith stated that members of the investing community may specifically invest in companies that follow positive ESG values and principles, or they have guidelines that must be satisfied by a prospective investment. (Statement No. 2-R at 4). Mr. Smith stated that if the Company did not implement ESG initiatives, it would not be an applicable or attractive investment to this segment of the investing community, and that access to a broader pool of investors functions to decrease the cost of capital for the Company and results in lower rates paid by its customers. (Statement No. 2-R at 5). Mr. Smith stated that ESG initiatives are customer-oriented initiatives that benefit customers from an affordability perspective by investing money in the communities where customers live,

work and raise their families. (Statement No. 2-R at 5). Mr. Smith stated that the Company believes it is important to support long-term viability and economic health through development initiatives that create jobs, support local suppliers and attract new business throughout the service area, as well as, providing support through FirstEnergy foundation grants, corporate giving and employees dedicating volunteer time to the communities. (Statement No. 2-R at 6).

Q. WHAT IS YOUR RESPONSE TO MR. SMITH'S REBUTTAL ON DEI AND ESG COSTS?

A. With respect to DEI costs, I am still recommending disallowing two-thirds of the costs in rates because most of these costs do not reflect ratepayer benefits nor has the Company provided any evidence of actual benefits to ratepayers. While Mr. Smith has stated that inclusion of DEI costs follows the Commission's Diversity Policy Statement and that the OCA supports that Policy, it does not mean or infer that ratepayers should pay for all of the DEI costs included in rates. Mr. Smith has not provided any actual results in the implementation of DEI costs, just the costs of such with no associated outcome. Also, ratepayers should not be responsible for community initiatives, supplier diversity, sourcing local talent and supporting local economies in which the Company serves. These goals are clearly within the realm of the Company with respect to corporate initiatives, ideas, and visions and benefit the Company in its branding objectives. If the Company believes that these DEI costs have value, then the Company should shoulder the burden of funding these costs. With respect to ESG costs, I am still recommending disallowance of these costs in rates as ESG costs reflect the Company's shared vision, strategies, investment in the communities, better access to capital and attracting outside investors to invest in the Company, which I believe are clearly the responsibility of the Company and ratepayers should not be burdened with these costs. The Company has not provided any results with respect to incorporating these ESG initiatives in this proceeding. As with DEI costs, if the Company believes that there is value in implementing these costs, the Company should shoulder the burden of funding these costs. ESG costs encompass data and metrics needed to inform decision-making for companies and investors alike and relate to governance factors such as executive compensation, succession planning, board management practices

and shareholder rights, which are clearly in the spectrum of the Company's responsibilities. My recommendations are reflected on my Exhibit DM-SR-18.

j. Uncollectible Accounts Expense – Chapter 14

Q. WHAT DID MR. JONES STATE REGARDING UNCOLLECTIBLE ACCOUNTS EXPENSE- CHAPTER 14 COLLECTIONS?

A. Mr. Jones stated that Chapter 14 of the Public Utility Code, which governs utilities' collection procedures for residential customers, is scheduled to sunset in December of 2024 and as a result, several changes to the collection procedures outlined in Chapter 14 have been proposed by the legislature. (Statement No. 8-R at 40). FE PA is obligated to consider the potential impact of proposed legislative changes to Chapter 14 if accepted based upon the forecast for the future. If the proposed changes to Chapter 14 of the Public Utility Code are not adopted by the General Assembly, the Company will update its uncollectible expense projections for 2025 accordingly. (Statement No 8-R at 40).

Q. WHAT IS YOUR RESPONSE?

A. As more fully described in Mr. Colton's surrebuttal, he continues to disallow costs related to the Company's uncollectible accounts relating to any potential Chapter 14 changes. My adjustments are related to the recommendation of Mr. Colton. My recommendation is shown on my Exhibit DM-SR-15.

k. Depreciation Expense

Q. WHAT DID MR. GAWLIK STATE REGARDING YOUR ADJUSTMENT TO DEPRECIATION EXPENSE?

A. Mr. Gawlik stated that I did not include adjustments to my other costs, i.e. depreciation expense adjustments, as proposed by OCA Witness Mr. Garrett to calculate my federal and state income taxes. (Statement No. 5-R at 3). Mr. Gawlik stated that I should have used the 21% federal tax rate instead of the composite tax rate of 27.312% to calculate my accumulated deferred income taxes to Mr. Garrett's proposed adjustment to depreciation expense of $62,573,657.

Q. WHAT IS YOUR RESPONSE?

A. I have reviewed Mr. Gawlik's rebuttal with respect to my errors in the calculation of my federal and state income taxes, associated with the adjustments that I have included with respect to Mr. Garrett's recommended depreciation adjustment. I have re-calculated my federal and state income tax adjustments accordingly. With respect to and as more fully discussed in Mr. Garrett's surrebuttal testimony, he continues to recommend a disallowance of $62,573,657 with respect to the Company's overall depreciation expense. This is shown on my Exhibit DM-SR-19.

l. Amortization Expense

Storm Reserve and Extraordinary Storm Deferral

Q. WHAT HAS THE COMPANY STATED WITH RESPECT TO YOUR ADJUSTMENTS TO STORM RESERVE AND EXTRAORDINARY STORM DEFERRAL AMORTIZATION?

A. Ms. Larkin stated that the Predecessor Companies established and maintained a storm reserve account pursuant to the Joint Petition for Partial Settlement of Rate Investigation at Docket No. R-2014-2428745 (Joint Petition). The Joint Petition specifically provided that expenses related to storm damage, excluding those expenses related to damages from extraordinary storm events, will be recorded in the storm reserve account in order to eliminate any impact of such expenses on the Company's income statement. The Company's claim to recover its costs for ongoing storm damage is consistent with the terms of the Joint Petition which was signed and supported by both the OCA and I&E. (Statement No. 3-R at 23). Ms. Larkin stated that she did not agree with my proposed alignment of the amortization period recovery with my proposed rate case expense normalization period. (Statement No. 3-R at 24).

Q. WHAT IS YOUR RESPONSE?

A. As I stated in my direct testimony, the Commission stated that the Company will continue to maintain its storm reserve account on the Company's balance sheet and required the Company to include a level of recovery for purposes of funding the storm reserve balance representing five-years average of historical expenses related to storm damages. (Mugrace

OCA Statement 1 at 16). I do not see any language or directives from the Commission that allows the Company to recover these costs as a rate base component, earning a return on these costs as well as and in addition to recovering these costs as expenses through amortization. The Company should only be allowed to recover these costs as expenses through amortization, and these expenses should be based upon five-years of historical expenses.

Q. WHAT DID MS. LARKIN STATE REGARDING YOUR DISALLOWANCE OF THE 2024 STORM RESERVE ACTIVITY?

A. Ms. Larkin did not agree with my disallowance of the Company's 2024 Storm Reserve Activity of $18,944,000. She stated that in response to OCA-XII-7 the Future Test Year storm damage expenses are based upon historic actual storm expenses, and the first six months of 2024 is $17.6 million which is greater than the estimated total included in the Company's initial filing. (Statement No. 3-R at 24). Ms. Larkin stated that I attempted to ignore the fact that ratemaking is prospective in nature and the Company has demonstrated that its projections for the FTY are based on past experience. (Statement No. 3-R at 25).

Q. WHAT IS YOUR RESPONSE?

A. Storm reserve activity balances should include actual known and measurable costs that were incurred by the Company. Storm reserve costs based upon projected or forecasted costs should not be allowed for recovery as the Company has not incurred these costs in 2024. As I stated in my direct testimony, the Company is permitted to seek recovery of actually incurred storm damage costs and not to forecast expected or projected storm costs that have not yet been incurred. The Company's $18,944,000 is speculative in nature and should not be included for recovery.

Q. WHAT HAS MS. LARKIN STATED REGARDING YOUR DISALLOWANCE OF THE PENN POWER RATE DISTRICT'S PENDING EXTRAORDINARY STORM DAMAGE?

A. Ms. Larkin stated that the Commission approved the Penn Power Rate District's outstanding extraordinary storm deferral petition on July 11, 2024 making the adjustment unnecessary. (Statement No. 3-R at 25).

Q. WHAT IS YOUR RESPONSE?

A. Based upon the Commission approval dated July 11, 2024, I am accepting the Company's extraordinary storm damage balance related to the Penn Power Rate District of $9,577,540. My recommendation is shown on my Exhibit DM-SR-20.

Covid-19 Amortization

Q. WHAT DID MS. LARKIN STATE REGARDING YOUR AMORTIZATION OF THE COMPANY'S COVID-19 COSTS?

A. Ms. Larkin did not agree with my recommended 5.3 year amortization period with respect to the COVID-19 costs. Ms. Larkin stated that it is reasonable to assume that the Company will be filing rate cases with increased frequency and that it is extremely unlikely it would stay out for 5.3 years.

Q. WHAT IS YOUR RESPONSE?

A. As I previously stated under my rate case expense section, the Commission normalizes rate case expenses for ratemaking purposes. The Commission looks to the historical filing frequency to determine the proper normalization period. The fact that the Company was under a rate freeze or rate cap does not change the fact that the Commission normalizes rate case expenses based upon the Company's historical filing. While I am not reducing the Company's proposed request for COVID-19 costs of $30,383,000, I am recommending that these costs be recovered over the same period as rate case expenses.

Verizon Complaint

Q. WHAT HAS MS. SAVAGE STATED REGARDING THE AMORTIZATION OF THE VERIZON COMPLAINT?

A. As in her testimony with respect to inclusion of these costs in rate base, Ms. Savage does not agree with my exclusion of the amortization costs related to the Verizon Complaint. She stated that although the case is on appeal to the Pennsylvania Supreme Court, she was advised by counsel that the Commission's December 18, 2020 Opinion and Order was not stayed pending appeal. Therefore, as it currently stands, the Commission's December 18, 2020 Opinion and Order is still effective. (Statement No. 1-R at 22).

Q. WHAT IS YOUR RESPONSE?

A. As I stated previously in my surrebuttal testimony, I am not arguing that the Company should not be able to recover these costs in rates. My argument is that this issue has not come to fruition in order for the Company to begin recovery. These costs are still not known and measurable and are speculative until such time as the Supreme Court rules on the disposition of the case. Once the outcome of the litigation with Verizon is more certain, the Company can seek recovery of these costs in its next base rate case proceeding. My recommendation is reflected on my Exhibit DM-SR-20.

m. Taxes Other Than Income Taxes – Payroll Taxes

Q. WHAT HAS MR. GAWLIK STATED REGARDING YOUR ADJUSTMENTS TO TAXES OTHER THAN INCOME?

A. Mr. Gawlik stated that he did not agree with my adjustment to Taxes other than Income Taxes of $98,605 (Statement No. 5-R at 2). He stated that I did not contest the Company's methodology for computing Taxes other than Income Taxes, and that he disagrees with my adjustments to the Company's salary and wages and incentive compensation, which objections are covered in the rebuttal testimony of Company witness Ms. April Marx. He stated that the derivative tax adjustments that follow from my underlying adjustments should be rejected. (Statement No. 5-R at 2). Mr. Gawlik does not agree with my adjustment to the Company's PURTA tax adjustment in that he disagrees with my adjustments to the Company's EPIS balance and therefore, the derivate tax adjustments that follow should also be rejected. (Statement No. 5-R at 3).

Q. WHAT IS YOUR RESPONSE?

A. My recommended Taxes Other Than Income Taxes represent the flow through of my adjustments to the Public Utility Realty Tax, the Payroll Taxes, and other taxes based upon my overall revenue requirement adjustment. These are shown on my Exhibit DM-SR-21.

n. Income Taxes / Deferred Income Taxes

Q. WHAT HAS MR. GAWLIK STATED REGARDING YOUR ADJUSTMENTS TO FEDERAL AND STATE INCOME TAXES INCLUDING DEFERRED INCOME TAXES?

A. Mr. Gawlik stated that I did not object to the Company's methodology for computing income taxes and my adjustments to income taxes are the direct result of my other proposed adjustments to items of operating income, operating expenses or rate base. (Statement No. 5-R at 3). Mr. Gawlik stated that my proposed adjustments to rate base, operating revenues and operating expenses to derive my income tax expense should be rejected. (Statement No. 5-R at 3).

Q. WHAT DID MR. GAWLIK STATE REGARDING YOUR ADJUSTMENTS TO THE COMPANY'S ADIT BALANCE?

A. Mr. Gawlik did not agree with my adjustments to the Company's ADIT balance. (Statement No. 5-R at 3). He stated that my use of a 27.312% composite rate to derive the ADIT balance of $17,090,117 is incorrect and that I should have used a 21% tax rate. The Company only includes plant related ADIT in rate base at the federal tax rate of 21% because the state income tax benefits associated with accelerated tax depreciation and other deductions are immediately flowed through to customers and not normalized. (Statement No. 5-R at 4). Mr. Gawlik stated that since I used the 27.312% composite rate to calculate OCA witness Mr. Garrett's proposed decrease to book depreciation, it should have the opposite effect causing ADIT to increase. (Statement No. 5-R at 4).

Q. WITH MR. GAWLIK'S REBUTTAL TESTIMONY WHAT ARE THE ADJUSTMENTS THAT YOU HAVE?

A. With Mr. Gawlik's rebuttal testimony, I have adjusted my Income Taxes to account for OCA witness Mr. Garrett's Depreciation Expenses adjustment of $62,573,657 on my Exhibit DM-SR-22. I also adjusted my ADIT balance to account for a 21% federal tax rate that reduces my ADIT balance from $17,090,117 to $13,140,468 shown on my Exhibit DM-SR-9. The flow through of these adjustments results in an updated Income Tax of $91,518,701 instead of my direct testimony balance of $78,623,847.

Q. WHAT DID MR. GAWLIK STATE REGARDING DEFERRED INCOME TAXES?

A. Mr. Gawlik stated that the deferred income tax expense balance as originally filed reflected the amortization of liabilities in Excess Accumulated Deferred Income Taxes (EADIT) and it omitted the offsetting assets. Because EADIT amortization as settled in the TCJA proceedings included amortization of the remeasured deferred tax assets, the same should continue to be reflected in EADIT amortization as a component of deferred income tax expense in base rates. The Company has corrected the deferred income tax expense for all four Rate Districts. (Statement No. 5-R at 11).

Q. WHAT IS YOUR RESPONSE?

A. In its originally filed petition the Company included $4.625 million of deferred income taxes in its Operating Income Statement. In the Company's rebuttal testimony under Company Witness Ms. Larkin, she provided Company Exhibit FE PA PML-7 page 25 of 63 reflecting an updated deferred income tax balance of $13.798 million. While I understand the requirement of normalization and the fact that failing to apply the normalization rule is a violation, I am continuing to recommend a balance of $4.625 million, as adjusting this balance to $13.798 million would increase the Company's overall revenue requirement. Ms. Larkin stated that the Company is not seeking to recover more than the $502.490 million initially requested. (Statement No. 3-R at 5). My recommendation is shown on my Exhibit DM-SR-4 line 25 which I have included in my revenue requirement calculation.

o. Act-40 Requirements (Act 40 of 2016)

Q. WHAT DID MR. GAWLIK STATE REGARDING YOUR ADJUSTMENTS TO THE COMPANY'S CONSOLIDATED TAX ADJUSTMENT (CTA) AND ACT 40 OF 2016?

A. Mr. Gawlik stated that my proposal to reduce rate base by $99,056,696 is based upon my interpretation of Act 40 of 2016. He stated that my computation of any hypothetical difference calculated upon Act 40 is inaccurate. (Statement No. 5-R at 5). Mr. Gawlik stated that I mistakenly asserted that I identified $921.995 million as a consolidated tax adjustment amount. (Statement No. 5-R at 5). Mr. Gawlik stated that in Exhibit GJG-1 he identified the required Section 1301.1.(b) differential for FE PA as $36.180 million. Mr.

Gawlik stated that I used a higher consolidated tax loss from 2022 which is not the differential defined by Act 40 nor is it appropriately allocated to the Company. Mr. Gawlik stated that 50% of the differential shown on Exhibit GJG-1 is $18.090 million. (Statement No. 5-R at 6). Finally, Mr. Gawlik stated that I concluded that FE PA basically intends to use that money for the benefit of stockholders and not apply it in any manner to provide quantifiable ratepayer benefit or in a manner that directly benefits service to Pennsylvania customers. (Statement No. 5-R at 6).

Q. WHAT DID MR. HAWKINS STATE REGARDING YOUR CONSOLIDATED TAX ADJUSTMENT?

A. Mr. Hawkins stated that I offered my own definition of general corporate purposes and ultimately argues that the Company has not identified how this amount will be used to benefit ratepayers and further insinuates without any evidence that the Company will use this hypothetical amount to benefit its shareholders. Mr. Hawkins stated that I recommended that this hypothetical amount should be used as a source of non-investor supplied capital and reduce the Company's rate base balance. (Statement No. 12-R at 49). Mr. Hawkins stated that even under my limited definition of general corporate purposes, I recognize that the term could broadly refer to any lawful expenditure by the public utility. Mr. Hawkins stated that the Company plans to make a variety of expenditures that fulfill its general purpose as a public utility in the FPFTY. (Statement No. 12-R at 50).

Q. WHAT IS YOUR RESPONSE?

A. The Company should not benefit from compliance with Act 40 without any specific use related to general corporate purposes. The Company simply omits how the other 50% of the differential is to be used for general corporate purposes. Ratepayers are already supporting the Company's infrastructure and reliability investments through rates; more information is needed to show that the additional revenue now being provided by ratepayers is actually being used and not simply going to shareholders. The Company should provide evidence of actual application of its differential related to general corporate purposes in a manner that reduces ratepayer obligations. With respect to the reference to PECO, I was referring to FE PA. My computation is not in error. With respect to the Company's 50% difference of $36.180 million or $18.090 million, I reviewed the response

to OCA Set IV-56 and the CONFIDENTIAL Exhibit GJG-1 and am accepting the Company's CTA balance of the 50% differential of $18.090 million. My recommendation is shown on my Exhibit DM-SR-3.

Q DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

REVENUE REQUIREMENT SUMMARY

		(1) Company Proposed	Adjustment	OCA	References
1	**Rate Base**	**$ 7,165,798,000**	**$ (183,318,812)**	**$ 6,982,479,188**	
2	Rate of Return	8.19%		6.97%	
3	**Operating Income**	**$ 586,878,856**	**$ (100,200,057)**	**$ 486,678,799**	
4	Operating Income - Present Rates	$ 247,085,000	$ 191,467,099	$ 438,552,099	
5	**Additional Income Requirement**	**$ 339,794,000**	**$ (291,667,299)**	**$ 48,126,701**	
6	Gross Revenue Conversion Factor	1.478808		1.478808	Sch. D-22
7	**Base Revenue Requirement Increase**	**$ 502,490,000**	**$ (431,319,864)**	**$ 71,170,136**	
8	Other Operating Revenue	$ -	$ -	$ -	
9	**Total Revenue Requirement Increase**	**$ 502,490,000**	**$ (431,319,864)**	**$ 71,170,136**	
10	**Present Rate Revenues**	$ 1,569,644,000		$ 1,569,644,000	
11	**% Increase**	32.013%		4.534%	
(3)	**Additional Revenues**	**$ 502,490,000**		$ 71,170,136	
(2)	**Total Recommended Revenues**	**$ 2,072,134,000**		**$ 1,640,814,136**	

(1) Company FE PA Exhibit PML-1 page 1

Differences due to rounding

(2) Excludes Other Operating Revenues of $1,359,000

(3)	Met-Ed	$ 145,960,000	29.05%	$ 20,673,034
	Penelec	$ 132,565,000	26.38%	$ 18,775,834
	Penn Power	$ 54,617,000	10.87%	$ 7,735,675
	West Penn	$ 169,348,000	33.70%	$ 23,985,592
	Total FE PA	$ 502,490,000	100.00%	$ 71,170,136

RATE OF RETURN

(1)	Company Proposed	Capitalization Ratio	Embedded Cost	Return %
1	Long - Term Debt	46.190%	4.560%	2.11%
	Preferred Stock	0.000%	0.000%	
2	Common Equity	53.810%	11.300%	6.08%
3	**Total**	**100.000%**		**8.19%**
	OCA (2)			
4	Long - Term Debt	50.000%	4.560%	2.280%
	Preferred Stock			
5	Common Equity	50.000%	9.380%	4.690%
6	**Total**	**100.000%**		**6.970%**
				-1.217%

(1) Company FE Exhibit PML-1 page 3

(2) Testimony of David Garrett

MEASURE OF VALUE - RATE BASE

(PA Jurisdictional)

		(1) Company Proposed	Adjustments	OCA	References
1	Utility Plant in Service	$ 12,550,839,000	$ (9,742,340)	$ 12,541,096,660	DM-5
2	Accumulated Depreciation	$ (3,929,214,000)	$ 62,672,449	$ (3,866,541,551)	DM-6
3	Other Plant	$ -	$ -	$ -	
4	**Net Plant In Service**	**$ 8,621,625,000**	**$ 52,930,110**	**$ 8,674,555,110**	
5	Materials and Supplies	$ 72,094,000	$ -	$ 72,094,000	
6	Cash Working Capital	$ 201,495,000	$ (8,263,390)	$ 193,231,610	DM-7
7	[redacted]			$ -	DM-10
8	Customer Deposits	$ (105,182,000)	$ -	$ (105,182,000)	
9	Customer Advances	$ (557,000)	$ -	$ (557,000)	
10	Accumulated Deferred Income Taxes	$ (1,846,713,000)	$ 13,140,468	$ (1,833,572,532)	DM-9
11	Capitalized Pension and OPEB	$ (10,162,000)	$ 10,162,000	$ -	DM-8
12	[redacted]	$ -	$ [redacted]	$ [redacted]	OCA-IV-54
13	**Total Measure of Value - Rate Base**	**$ 7,165,798,000**	**$ (183,318,812)**	**$ 6,982,479,188**	

(1) Company FE PA Exhibit PML-1 page 4
(2)

INCOME STATEMENT

		(1) Company Present Rates	Company Rate Increase	Company Proposed Rates	Adjustments	OCA Present Rates	References
	Operating Revenues						
1	Retail Sales	$ 1,495,300,000	$ 502,490,000	$ 1,997,790,000	$ -	$ 1,495,300,000	
2	Rider Revenues	$ -	$ -	$ -	$ -	$ -	
3	Unbilled an NY Revenues	$ -	$ -	$ -	$ -	$ -	
4	Normalized Customers	$ -	$ -	$ -	$ -	$ -	
5	Miscellaneous Service Revenue	$ -	$ -	$ -	$ -	$ -	
6	Energy Efficiency and Behind Meter	$ -	$ -	$ -	$ -	$ -	
7	Other Electric Revenues	$ 74,344,000	$ 1,359,000	$ 75,703,000	$ -	$ 74,344,000	
8	Revenue Increase	$ -	$ -	$ -			
9	**Total Operating Revenues**	**$ 1,569,644,000**	**$ 503,849,000**	**$ 2,073,493,000**	**$ -**	**$ 1,569,644,000**	
	Operating Expenses						
10	Transmission Expense	$ 6,644,000	$ -	$ 6,644,000	$ 1,000	$ 6,645,000	DM-12
11	Distribution Expense	$ 424,195,000	$ -	$ 424,195,000	$ (50,516,027)	$ 373,678,973	DM-14
12	Customer Accounts Expense	$ 60,332,000	$ 5,528,000	$ 65,860,000	$ (20,647,972)	$ 45,212,028	DM-15-E29
13	Customer Service & Info. Expense	$ 29,246,000	$ -	$ 29,246,000	$ (8,176,329)	$ 21,069,671	DM-16
14	Sales Expense	$ -	$ -	$ -	$ -	$ -	
15	Administrative & General Expense	$ 181,773,000	$ 1,204,000	$ 182,977,000	$ (38,397,895)	$ 144,579,105	DM-18
	Incentive Compensation - FirstEnergy				$ -	$ -	DM-13
	FE Service Co. Charges - LTIP				$ (8,629,446)	$ (8,629,446)	OCA-IV-52
	FE Service Co. Charges - STIP				$ (15,813,792)	$ (15,813,792)	DM-13
16	Vacancy Rate	$ -	$ -	$ -	$ (6,223,462)	$ (6,223,462)	DM-13
17	**Sub-Total**	**$ 702,190,000**	**$ 6,732,000**	**$ 708,922,000**	**$ (148,403,923)**	**$ 560,518,077**	
18	Depreciation Expense	$ 388,772,000	$ -	$ 388,772,000	[redacted]	[redacted]	DM-19
	Amortization Expense	$ 125,940,000		$ 125,940,000			DM-20
19	Other	$ -	$ -	$ -	$ -	$ -	
20	Taxes Other Than Income	$ 101,924,000	$ 29,647,000	$ 131,571,000	$ (29,745,905)	$ 101,825,095	DM-21
21	**Total Operating Expenses**	**$ 1,318,826,000**	**$ 36,379,000**	**$ 1,355,205,000**	**$ (320,256,799)**	**$ 1,034,948,201**	
22	Net Operating Income Before Income Taxes	**$ 250,818,000**	**$ 467,470,000**	**$ 718,288,000**	**$ (183,592,201)**	**$ 534,695,799**	
23	State Income Taxes	$ (1,306,000)	$ 37,351,000	$ 36,045,000	$ (10,316,598)	$ 25,728,402	DM-22
24	Federal Income Taxes	$ 414,000	$ 90,325,000	$ 90,739,000	$ (24,948,701)	$ 65,790,299	DM-22
25	Deferred Income Taxe	$ 4,625,000	$ -	$ 4,625,000	$ -	$ 4,625,000	DM-23
26	**Net Operating Income**	**$ 247,085,000**	**$ 127,676,000**	**$ 586,879,000**	**$ (148,326,901)**	**$ 438,552,099**	
27	Net Operating Income Present Rates					$ 486,678,799	
28	**Rate Base**	**$ 7,165,798,000**		**$ 7,165,798,000**		**$ 6,982,479,188**	
29	Rate of Return	3.448%		8.190%		6.970%	

(1) Company FE PA Exhibit PML-1 page 25

ELECTRIC PLANT IN SERVICE

(PA Jurisdictional)

		(1) Company Proposed	Adjustments	OCA	References
	Non-Depreciable Plant	$ 33,342,000		$ 33,342,000	
1	Intangible Plant	$ 372,818,000	$ -	$ 372,818,000	
2	Transmission Plant	$ 79,547,000	$ -	$ 79,547,000	
3	Distribution Plant	$ 11,386,504,000	$ -	$ 11,386,504,000	
4	General Plant	$ 675,501,000		$ 675,501,000	
5	**Total Electric Plant In Service Balance**	**$ 12,547,712,000**	**$ -**	**$ 12,547,712,000**	OCA-VI-10 OCA-VI-11 OCA-VI-12
6	Eliminate Asset Retirement	$ (1,345,000)	$ -	$ (1,345,000)	
7	Eliminate Penelec NY	$ (24,731,000)	$ -	$ (24,731,000)	
8	Include Plant Acquisition of LIDA	$ 17,196,000	$ -	$ 17,196,000	
9	Plant - 2-year Inspection/Maintenance	$ 12,008,000	$ (9,742,340)	$ 2,265,660	OCA-IV-32
10	**Adjutment Electric Plant In Service**	**$ 12,550,840,000**	**$ (9,742,340)**	**$ 12,541,097,660**	OCA-IV-13

(1) Company FE PA Exhibit PML-1 page 6/7
Adjustment RB-1

ACCUMULATED DEPRECIATION

		(1) Company Proposed	Adjustments	OCA	References
	Non-Depreciable Plant	$ (45,000)			
1	Intangible Plant	$ 299,266,000		$ 299,266,000	
2	Transmission Plant	$ 41,436,000			
	Distribution Plant				
	Land Rights	$ 34,601,000			
3	Structures & Improvements	$ 31,925,000			
4	Station Equipment	$ 468,458,000			
5	Poles Towers & Fixtures	$ 614,209,000			
6	OH Conductors & Devices	$ 627,457,000			
7	UG Conduits	$ 50,590,000			
8	UG Conductors	$ 304,607,000			
9	Line Transformers	$ 628,945,000			
10	Services	$ 249,543,000			
11	Meters	$ 240,906,000			
12	Installation on customers premises	$ 35,866,000			
13	Leased Property on customers premises	$ 471,000			
14	Street Lighting	$ 33,959,000			
15	Asset Retirement costs	$ 137,000			
16	RWIP	$ (5,567,000)			
17	Other	$ -			
18	General Plant	$ 270,123,000			
19	**Total Accumulated Depreciation**	**$ 3,926,887,000**	**$ -**	**$ 3,926,887,000**	
20	Eliminate Asset Retirement Costs	$ (944,000)		$ (944,000)	
21	Eliminate Penelec NY Jurisdiction	$ (7,632,000)		$ (7,632,000)	
22	Include West Penn - Acquisition - LIDA	$ 10,781,000		$ 10,781,000	
23	Reserve - 2 yr cycle Inspect/maintenance	$ 123,000	$ (99,792)	$ 23,208	
24	**Adjusted Accumulated Depreciation**	**$ 3,929,215,000**	**$ (99,792)**	**$ 3,929,115,208**	
	Garrett Recommendation		$ (62,573,657)	**$ 3,866,541,551**	

(1) Company FE PA PML-1 page 12/13
Adjustment RB-2

WORKING CAPITAL ALLOWANCE
In ($000)

		Expenses (1)	Avg. Daily Exp.	Net Dollar Days	WCA	Adjustments	OCA	References
1	Revenue Lag Days							
	Expense Lag Days							
2	Payroll (Distribution Only)	$ 123,084	337.2164	34.69	$ 11,698.9	$ (974)	$ 10,724	
3	Pension Expense / Benefits	$ 117,423	321.7068	14.07	$ 4,526.4	$ (1,338)	$ 3,188	
4	Purchased Power /Energy	$ 2,093,219	5734.8466	17.40	$ 99,757.7		$ 99,758	
5	Annual PSC Assessment	$ 10,262	28.1151	103.84	$ 2,919.5		$ 2,920	
6	Service Company	$ 196,142	537.3753	36.15	$ 19,426.1	$ (2,421)	$ 17,005	
7	Uncollectible	$ 60,926	166.9205	0.00	$ -		$ -	
8	Other Expenses	$ 572,260	1567.8356	(3.19)	$ (5,001.4)	$ 715	$ (4,286)	
9	Sub-Total	**$ 3,173,316**	**8694.0164**		**$ 133,327.1**		**$ 129,309**	
10	Other	$ -	0.0000	$ -			$ -	
11	**Total O&M**	**$ 3,173,316**		**$ -**			**$ 129,309**	OCA-2-47
12	Federal Income Taxes	$ 90,961	249.2082	15.86	$ 3,951.20	$ (1,084)	$ 1,777	
13	State Income Taxes	$ 36,137	99.0055	15.86	$ 1,569.73	$ (448)	$ 671	
14	**Total Income Taxes**	**$ 127,098**	**348.2137**		**$ 5,521**		**$ 2,448**	
15	Payroll Taxes	$ 6,459	17.6959	32.51	$ 575	$ (8)	$ 567	
16	Ad Valorem Taxes	$ 888	2.4329	58.92	$ 143		$ 143	
17	Gross Reciepts Taxes	$ 272,262	745.9233	93.82	$ 69,981		$ 69,981	
18	PUC Realty Taxes	$ 6,100	16.7123	117.36	$ 1,961	$ (117)	$ 1,844	
19	Sales and Use Taxes	$ 252	0.6904	23.30	$ 16		$ 16	
20	Other Taxes	$ 1	0.0027	23.39	$ 0		$ -	
21	**Total Other Taxes**	**$ 285,962**	**783.4575**		**$ 72,677**		**$ 72,551**	
22	Interest Expenses - LT Debt	$ 151,198	414.2411	(41.25)	$ (17,085)		$ (18,131)	
23	Customer Deposits	$ 7,278	19.9397	(229.68)	$ (4,580)		$ (4,580)	
24	**Total**	**$ 158,476**	**434.1808**		**$ (21,665)**		**$ (22,711)**	
25	Prepayments	$ -			**$ 7,741**		$ 7,741	
							$ -	
26	**Total Working Capital Requirements**	**$ 3,744,852**			**$ 197,601**		**$ 189,338**	
27	**Adjustments**				$ 3,894		$ 3,894	
28					**$ 201,495**		**$ 193,232**	
		$ -					$ -	
		$ -					$ -	
		$ -					$ -	

(1) Company FE PA PML-1
Adjustment RB-4

PENSION ASSET

		(1) Company Proposed	Adjustments	OCA	References
1	**Capitalized Costs**	**$ (39,692,714)**	**$ 39,692,714**	**$ -**	
2	Accumulated Depreciation	$ 16,838,917	$ (16,838,917)	$ -	
3	Accumulated Deferred Income Tax	$ 12,728,859	$ (12,728,859)	$ -	
4	Balance	$ (10,124,938)	$ 10,124,938	$ -	
5	NY Allocation	$ (37,000)	$ 37,000	$ -	
6	**Adjusted Balance**	**$ (10,161,938)**	**$ 10,161,938**	**$ -**	OCA-IV-21 OCA-IV-48 I&E RE-21/22/23 24/25/26/27/28

(1) Company Schedule TMA-3 Attach A
FE PA Exhibit PML-1 page 24
Adjustment RB-9

ACCUMULATED DEFERRED INCOME TAXES

		(1) Company Proposed	Adjustments	OCA	References
1	Property Related	$ 1,899,718,000	$ -	$ 1,899,718,000	
2	Less Excludable Items	$ (11,423,000)		$ (11,423,000)	
3	Offset For Min. Tax Credits	$ (37,688,000)		$ (37,688,000)	
4	**Total before Jurisdiction Allocation**	**$ 1,850,607,000**	**$ -**	**$ 1,850,607,000**	
5	Less Allocation NY-Jurisdiction	$ (3,894,000)	$ -	$ (3,894,000)	
6	**Property Related ADIT as Adjusted**	**$ 1,846,713,000**	**$ -**	**$ 1,846,713,000**	
	Garrett Recommendation		$ (13,140,468)	**$ 1,833,572,532**	

(1) Company FE PA Exhibit PML-1, page 23
Adjustment RB-8

[redacted]

16	**Total Adjusted Balance**	**$ 233,198,000**	**$ (233,198,000)**	**$**	**-**

[redacted]

POWER SUPPLY EXPENSE

		(1) Company Proposed	Adjustments	OCA	References
1	**Per Budget**	**$ 2,093,218,000**	**$ -**	**$ 2,093,218,000**	
2	Adjustement to Riders	$ (2,093,218,000)		$ (2,093,218,000)	
3	**Base Rate Per Budget**	**$ -**		**$ -**	

(1) FE PA Exhibit PML-1 page 25/30

TRANSMISSION EXPENSE

		(1) Company Proposed	Adjustments	OCA	References
1	Per Budget	$ 6,580,000	$ -	$ 6,580,000	
2	Payroll Adjustment	$ 61,000	$ -	$ 61,000	OCA-IV-22
3	Service Company Payroll Adjustment	$ 4,000	$ -	$ 4,000	OCA-IV-25
4	**Total**	**$ 6,645,000**	**$ -**	**$ 6,645,000**	

(1) FE PA Exhibit PML-1 page 37
Adjustment IS-4

SALARY AND WAGES

		(1) Company Proposed			Adjustments	OCA	References
		Union	Non-Union	Total			
		Number of Employees					
		1,643	544	2,187			
1	Base Payroll - Straight Time	$ 165,534,000	$ 59,823,000	$ 225,357,000			
2	Overtime Payroll	$ 35,008,000	$ 3,341,000	$ 38,349,000		$ -	
3	Incentive Compensation - FE	$ 9,933,000	$ 3,905,000	$ 13,838,000	$ -		OCA-XII-4
4	**Sub-Total**	**$ 210,475,000**	**$ 67,069,000**	**$ 277,544,000**			OCA-IV-28
							OCA-V-43
5	Straight Time through Increase date	$ 2,325,190	$ -	$ 2,325,190			
6	Straight Time through Increase date	$ 246,660	$ -	$ 246,660			
7	Straight Time through Increase date	$ -	351,488	351,488			
8	Total Payroll as Adjusted	$ 2,571,850	$ 351,488	$ 2,923,338			
9	**Total Adjusted Annualized Payroll**	**$ 213,046,850**	**67,420,488**	**280,467,338**	**$ (6,223,462)**		OCA-IV-22
					vacancy adjustment		OCA-IV-24
10	**O&M Allocation**			**43.1690%**		**43.1690%**	
11	**O&M Payroll Adjustment**			**1,261,976**		$ -	
12	Transmission	$ -	$ -	$ 61,000	$ (300,817)		OCA-IV-22
13	Distribution	$ -	$ -	$ 1,124,000	$ (5,542,925)		
14	Customer Accounts	$ -	$ -	$ 37,000	$ (182,463)		
15	Customer Service	$ -	$ -	$ 20,000	$ (98,629)		
16	Sales	$ -	$ -	$ -	$ -		
17	Admin & General	$ -	$ -	$ 20,000	$ (98,629)		
18	**Total**	**$ -**	**$ -**	**$ 1,262,000**	**$ (6,223,462)**		
					vacancy adjustment		
19	**FirstEnergy Service Company Payroll**						
20	Straight Time			$ 16,286,000			OCA-IV-25
21	Straight Time Rate Increase			3.750%			
22	Straight Time Increase - Test Year			$ 610,725			
23	**O&M Allocation**			**43.7185%**		**43.7185%**	
24	**O&M Payroll Adjustment**			**$ 267,000**			
25	Transmission			$ 4,000	$ -		
26	Distribution			$ 61,000	$ -		
27	Customer Accounts			$ 23,000	$ -		
28	Customer Service			$ 38,000	$ -		
29	Sales			$ -	$ -		
30	Admin & General			$ 140,000	$ -		
31	**Total**			$ 266,000	$ -		

				Disallowance	Disallowance	
	Service Company Charges					
	Incentive Compensation	**STIP**	**LTIP**	**LTIP**	**STIP**	**Total**
32	Financial Metrics 30%	$ 4,744,138		$ -	$ (4,744,138)	
33	Safety Metrics 25%	$ 3,953,448		$ -	$ (3,953,448)	
34	Operational Metrics 45%	$ 7,179,462		$ -	$ (7,179,462)	
35	**Total**	**$ 15,813,792**	**$ 8,629,446**	**$ (8,629,446)**	**$ (15,813,792)**	**$ (24,443,238)**
	First Energy Company Incentive					
36	Financial Metrics 30%	$ 4,151,400		$ -	$ (4,151,400)	
37	Safety Metrics - 25%	$ 3,459,500		$ -	$ -	
38	Operational Metrics - 45%	$ 6,227,100		$ -	$ -	
39	**Total - 100%**	**$ 13,838,000**	**$ -**	**$ -**	**$ (4,151,400)**	OCA-IV-2
						OCA-IV-4
					$ (34,818,100)	

(1) FE PA Exhibit PML-1 page 38
II-D-10 Attachment A

DISTRIBUTION EXPENSE

		(1) Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 319,523,000**	**$ -**	**$ 319,523,000**	
2	Payroll	$ 1,124,000		$ 1,124,000	OCA-IV-22
3	FirstEnergy Payroll	$ 61,000	$ -	$ 61,000	OCA-IV-25
4	Total Payroll	$ 1,185,000		$ 1,185,000	
					OCA-IV-19
5	Storm Expense Adjustment	$ 5,171,000	$ (1,101,423)	$ 4,069,577	OCA-IV-30/31
6	Vegetation Management Adjustment	$ 92,846,000	$ (44,541,000)	$ 48,305,000	OCA-4-10
7	Inspection & Maintenance of OH Line	$ 6,007,000	$ (4,873,604)	$ 1,133,396	OCA-4-12/14
8	Amortization on Reacquired Debt	$ 271,000	$ -	$ 271,000	OCA-14-9
9	**Total Distribution Expense Before Alloc**	**$ 425,003,000**	**$ (50,516,027)**	**$ 374,486,973**	
10	Allocation to NY	$ (808,000)	$ -	$ (808,000)	
11	**Adjusted Distribution Expense**	**$ 424,195,000**	**$ (50,516,027)**	**$ 373,678,973**	

(1) FE PA Exhibit PML-1 page 40/41
Adjustment IS-5

CUSTOMER ACCOUNTS EXPENSE

		(1) Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 30,233,000**	**$ -**	**$ 30,233,000**	
2	Payroll	$ 37,000		$ 37,000	OCA-V-22
3	FirstEnergy Payroll	$ 23,000	$ -	$ 23,000	OCA-IV-25
4	Total Payroll Adjustment	$ 60,000	$ -	$ 60,000	
5	Uncollectible Accounts	$ 17,595,000	$ (15,901,580)	$ 1,693,420	OCA-IV-34
6	Additional Customers	$ 14,000	$ -	$ 14,000	MAJ-1
					OCA-14-18
7	**Total Customer Accounts Before Alloc**	**$ 47,902,000**	**$ (15,901,580)**	**$ 32,000,420**	
8	Allocation to NY	$ (57,000)	$ -	$ (57,000)	
9	Interest on Customer Deposits	$ 7,278,000	$ -	$ 7,278,000	
10	Customer Credit Card Payment	$ 5,208,000	$ -	$ 5,208,000	OCA-IV-63
11	Other	$ -			
12	**Adjusted Customer Accounts Expense**	**$ 60,331,000**	**$ (15,901,580)**	**$ 44,429,420**	
13	Additional Uncollectible	$ 5,528,000			
14		1.100121%		1.100121%	
15				$ 71,170,136	
16				$ 782,958	

(1) FE PA Exhibit PML-1 page 42
Adjustment IS-6

CUSTOMER SERVICE & INFORMATION

		Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 20,979,000**	**$ -**	**$ 20,979,000**	
2	Payroll	$ 20,000		$ 20,000	OCA-IV-22
3	FirstEnergy Payroll	$ 38,000	$ -	$ 38,000	OCA-IV-25
4	Total Payroll Adjustment	$ 58,000		$ 58,000	
6	**Total Customer Service Before Alloc**	$ 21,037,000		$ 21,037,000	
7	Allocation to NY	$ (34,000)	$ -	$ (34,000)	
8	Low Income Outreach Program	$ 763,000	$ (763,000)	$ -	OCA-IV-64
9	Electric Vehicle Rebate	$ 7,480,000	$ (7,413,329)	$ 66,671	OCA-IV-66
10	**Adjustment Customer Service Expense**	**$ 29,246,000**	**$ (8,176,329)**	**$ 21,069,671**	OCA-XIV-7

(1) Company FE PA Exhibit PML-1 page 46

SALES EXPENSE

		Company Proposed Rates	Adjustments	OCA	References
1	**Proposed Balance at 12/31/2025**	$ -	$ -	$ -	
2	**Total**	$ -	$ -	$ -	

ADMINISTRATIVE & GENERAL EXPENSE

		(1) Company Proposed Rates	Adjustments	OCA	References
1	**Budgeted Amount**	**$ 126,370,000**	**$ (2,112,287)**	**$ 124,257,713**	
2	Payroll	$ 20,000	$ -	$ 20,000	OCA-IV-22
3	FirstEnergy Payroll	$ 140,000	$ -	$ 140,000	OCA-IV-25
4	Total Payroll Adjustment	$ 160,000	$ -	$ 160,000	
5	**Total**	**$ 126,530,000**	**$ (2,112,287)**	**$ 124,417,713**	
	Pension Adjustment				
6	Per Budget	$ 23,902,000	$ -	$ -	OCA-IV-35
7	Pension before Delayed Recognition	$ (19,130,000)	$ -	$ -	
8	Include Delayed Recognition of Actuarial Gains/Losses	$ 47,419,000	$ -	$ -	
9	**Total Pension Adjusments**	**$ 52,191,000**	**$ (32,534,000)**	**$ 19,657,000**	OCA-IV-47
	OPEB Adjustment				
10	Per Budget	$ 3,182,000	$ -	$ -	OCA-IV-35
11	OPEB before Delayed Recognition	$ (3,440,000)	$ -	$ -	
12	Include Delayed Recognition of Actuarial Gains/Losses	$ 2,471,000	$ -	$ -	
13	**Total OPEB Adjustments**	**$ 2,213,000**	**$ (2,173,306)**	**$ 39,694**	OCA-IV-47
14	Employee Benefits Adjustment	$ 300,000	$ (12,000)	$ 288,000	OCA-IV-37
15	**Total A&G Allocation**	**$ 181,234,000**			OCA-IV-27
16	Allocation to NY	$ (295,000)	$ -	$ (295,000)	
17	Rate Case Expenses	$ 833,000	$ (361,302)	$ 471,698	OCA-IV-38
18	Other Adjustments -PUC/OCA/SBA	$ -		$ -	OCA-IV-23
19	**Total Balance**	**$ 181,772,000**	**$ (37,192,895)**	**$ 144,579,105**	
			0.23965%		
20	Incentive Compensation - FESC				
21	STIP	$ 15,813,792	$ -		OCA-4-4
22	LTIP	$ 8,629,446	$ -		OCA-4-4
23	DEI	$ 514,685	$ (343,140)	$ 171,545	OCA-4-7
24	ESG	$ 1,321,221	$ (1,321,221)	$ -	OCA-4-8
25	Economic Development	$ 78,158	$ (78,158)	$ -	OCA-4-9
26	Workforce Development	$ 9,125,713	$ (369,768)	$ -	OCA-4-9
27	Advertising	$ -	$ -	$ -	OCA-4-9
			$ (2,112,287)		

(1) Company FE PA Exhibit PLM-1 page 47
Adjustment IS-8

	DEPRECIATION	(1) Company Proposed Rates	Composite Depreciation Rates	Adjustments	OCA	References
1	**Expense Balance**	**$ 316,738,000**			**$ 316,738,000**	
2	Less Cost of Removal/Salvage Budget	$ (55,952,000)			$ (55,952,000)	
3	**Depreciation Expense Per Budget**	**$ 260,786,000**			**$ 260,786,000**	
4	Intangible Plant	$ 21,712,000	5.835%	$ -	$ 21,712,000	
5	Transmission Plant	$ 1,036,000	1.304%	$ -	$ 1,036,000	
6	Distribution Plant	$ 279,401,000	2.452%	$ (99,792)	$ 279,301,208	
7	General Plant	$ 35,532,000	5.279%	$ -	$ 35,532,000	
8	**Total**	**$ 337,681,000**		**$ (99,792)**	**$ 337,581,208**	
9	**Adjustment to Depreciation Expense**	**$ 76,895,000**		**$ -**	**$ 76,795,208**	
10	Average Cost of Removal/Salvage	$ 51,170,400		$ -	$ 51,170,400	
11	Adjustment to Cost of Removal/Salvage	$ (4,781,600)		$ -	$ (4,781,000)	
12	**Total before Allocation**	**$ 51,170,400**		**$ -**	**$ 51,170,400**	
13	Allocation to NY	$ (80,000)		$ -	$ (80,000)	
14	**Total Adjustments to Depreciation**	**$ 72,033,400**		**$ (99,192)**	**$ 71,934,208**	
15	**Adjusted Depreciation Expense**	**$ 388,771,400**		**$ (99,192)**	**$ 388,672,208**	
	Garrett Adjustment			$ (62,573,657)	**$ 326,098,551**	
				$ (62,672,849)		

(1) Company FE PA Exhibit PML-1 page 50
Adjustment 9 page 51

AMORTIZATION

		Company Proposed Rates	Adjustments	OCA	References
1	**Per Budget**	[redacted]			
	Eliminate Amortization per Budget				
2	SMT Rider Deferral				
3	Eliminate Storm Reserve Deferral				
4	Eliminate Deferred Accretion/Depreciation				
5	**Total Eliminations**				OCA-IV-39
	Amortization of Storm Reserve Balanc				
6	2023/2024 Storm Reserve				OCA-IV-19
7	Amortization Period				
8	**Annual Recovery**				
	Amortize Extraordinary Storm Damag				
9	Extraordinary Storm Balance				OCA-IV-17/18
10	Amortization Period				
11	**Annual Recovery**				
	Amortize COVID-19 Regulatory Balanc				
12	COVID-19 Regulatory Asset				OCA-IV-40 OCA-IV-42
	Amortize Streelight Regulatory Asset				
13	Streetlight Regulatory Asset Balance				OCA-IV-57/58
14	Amortization period				
15	**Annual Recovery**				
	Amortize Verizon Complaint				
16	Verizon Complaint Amount			[redacted]	OCA-IV-43
17	Amortization Period				
18	**Annual Recovery**				OCA-4-6
19	Total Adjustments to Amortization				
20	**Adjusted Amortization**	**$ 125,941,600**	[redacted]		

(1) Company FE PA Exhibit PML-1 page 56
Adjustment IS-10 page 57

TAXES OTHER THAN INCOME

		(1) Company Proposed	Adjustments	Present Rates OCA	References
1	**Taxes Other than Income Per Budget**	**$ 103,637,000**	**$ -**	**$ 103,637,000**	OCA-IV-44
2	GRAFT Expense Per Budget	$ 243,235,000		$ 243,235,000	
3	Less GRAFT Riders Retained	$ (154,393,000)	$ -	$ (154,393,000)	
4	**Base Rates Related GRAFT**	**$ 88,842,000**		**$ 88,842,000**	
	Federal and State Payroll Taxes				
5	Payroll Expense Per Budget	$ 277,544,000	$ -	$ 277,544,000	
6	Payroll Tax Rate Per Budget	2.316389%		2.316389%	
7	Total Payroll Tax	$ 6,429,000	$ -	$ 6,429,000	OCA-IV-45
8	PURTA Tax	$ 7,019,000		$ 7,019,000	
9	Real Estate Tax	$ 1,093,000		$ 1,093,000	
10	Sales and Use Tax	$ 252,000		$ 252,000	
11	Other Taxes	$ 1,000		$ 1,000	
12	**Total Taxes Other Per Budget**	**$ 103,636,000**	**$ -**	**$ 103,636,000**	
	GRAFT Adjustment	$ -	$ -	$ -	
13	Normalized Sales Revenue	$ 1,495,300,000		$ 1,495,300,000	
14	GRAFT Rate	5.90%		5.90%	
15	GRAFT on Normalized Sales	$ 88,222,700		$ 88,222,700	
16	Less Budgeted Amount	$ (88,842,000)		$ (88,842,000)	
17	**Adjustment to GRAFT**	**$ (619,300)**		**$ (619,300)**	
	Payroll Tax Adjustment				
18	Payroll As Adjusted	$ 280,467,338	$ (9,146,799)	$ 271,320,538	
19	Payroll Tax	2.316389%		2.316389%	
20	Adjusted Payroll Tax Expense	$ 6,496,716	$ (211,877)	$ 6,284,839	
21	Adjustment to Payroll Taxes	$ 67,716		$ (144,161)	
22	O&M Allocation at	44.3028%		44.3028%	
23	**Adjustment After Allocation**	**$ 30,000**	**$ (93,867)**	**$ (63,867)**	OCA-IV-45
24	PURTA Tax Adjustment	$ 6,100,000	$ (4,738)	$ 6,095,262	OCA-IV-44
25	Less PURTA Tax Expense per Budget	$ (7,019,000)		$ (7,019,000)	
26	**Adjustment to PURTA Tax**	**$ (919,000)**	**$ (4,738)**	**$ (923,738)**	
27	Real Estate Tax Adjustment	$ 888,000		$ 888,000	
28	Less Real Estate Tax per Budget	$ (1,093,000)		$ (1,093,000)	
29	**Non-Jurisdictional Balance**	**$ (205,000)**	**$ -**	**$ (205,000)**	
30	**Total Adjustment to Taxes Other**	**$ (1,713,300)**	**$ (98,605)**	**$ (1,811,905)**	
31	**Total Taxes Other Than Income**	**$ 101,923,700**	**$ (98,605)**	**$ 101,825,095**	

Gross Receipts Tax 5.90% OCA-IV-23

(1) Company FE PA Exhibit PML-1 page 58
Adjustment IS-11 - page 59

INCOME TAXES

		(1) Company Proposed	Adjustments	Present Rates OCA	References
1	Revenues	$ 2,073,493,000		$ 1,569,644,000	OCA-IV-46
2	Operating Expenses	$ 1,355,205,000		$ 1,034,948,201	
3	**Operating Income Before Taxes**	**$ 718,288,000**	**$ (183,592,201)**	**$ 534,695,799**	
4	Rate Base	$ 7,165,798,000		$ 6,982,479,188	
5	Weighted Cost of Debt	2.10999529%		2.28%	
6	Synchronized Interest Expense	$ 151,198,000	$ 8,002,526	$ 159,200,525	
7	**Net Income Before Taxes**	**$ 567,090,000**	**$ (191,594,726)**	**$ 375,495,274**	
8	ProForma Book Depreciation	$ 337,681,000	$ (99,792)	$ 337,581,208	OCA-2-64
9	Federal Accelerated Tax Depreciation	$ 194,244,000	$ (62,573,657)	$ 131,670,343	
10	State Accelerate Tax Depreciation	$ 17,008,000	$ -	$ 17,008,000	
			$ (62,673,449)		
11	**State Tax Depreciation over/under book**	**$ 126,429,000**	**$ 62,473,865**	**$ 188,902,865**	
12	Pro-Forma Salvage	$ 51,090,400		$ 51,090,400	
13	Tax Cost of Removal/Salvage	$ (56,147,000)		$ (56,147,000)	
14	Tax Basis Repairs	$ (134,290,000)		$ (134,290,000)	
15	Casualty Losses	$ (34,800,000)		$ (34,800,000)	
16	Section 263A Deductions	$ (75,498,000)		$ (75,498,000)	
17	Capitalized Benefits	$ (17,411,000)		$ (17,411,000)	
18	Other	$ 24,665,000		$ 24,665,000	
19	**State Taxable Income**	**$ 451,128,400**	**$ (129,120,862)**	**$ 322,007,539**	
20	**State Income Tax Rate at 7.99%**	**$ 36,045,159**	**$ (10,316,757)**	**$ 25,728,402**	
21	**Current Federal Income Taxes**				
	State Taxable Income	$ 451,128,400	$ (129,120,862)	$ 322,007,539	
22	State Accelerated Tax Depreciation	$ 17,008,000	$ -	$ 17,008,000	
	Less State Income Taxes	$ (36,045,159)	$ 10,316,757	$ (25,728,402)	
23	**Federal Taxable Income**	**$ 432,091,241**	**$ (118,804,105)**	**$ 313,287,136**	
24	**Federal Income Tax Rate at 21.00%**	**$ 90,739,161**	**$ (24,948,862)**	**65,790,299**	
		$ 126,784,320	$ (35,265,619)	$ 91,518,701	

DEFERRED INCOME TAXES

			(1) Company Proposed	Adjustments	OCA	References
1	**Federal Deferred Income Tax - Budget**	**$**	**(9,465,000)**			
2	Property Related Federal DIT	$	4,631,000			
3	Adjustment before Non-Jurisdiction allocation	$	14,096,000			
4	Distribution DIT	$	4,631,000			
5	Allocation to NY	$	(6,000)			
6	Adjustment to Federal DIT	$	14,090,000			
7	**Adjusted Federal DIT per Budget**	**$**	**4,625,000**		**$ 4,625,000**	

(1) Company FE PA Exhibit PML-1 page 62

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Dante Mugrace, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 1SR, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2024

Signature: Dante Mugrace
Dante Mugrace

Address: PCMG and Associates
90 Moonlight Court
Toms River, NJ 08753

OCA St. 2

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Co.	**:**	

DIRECT TESTIMONY

OF

MARLON F. GRIFFING, PH.D

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 25, 2024

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I. Introduction

Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Dr. Marlon F. Griffing. I am a Senior Consultant with the economic consulting firm of PCMG & Associates Inc. ("PCMG"). My business address is 22 Brookes Drive, Gaithersburg, MD 20785.

Q. PLEASE DESCRIBE PCMG.

A. PCMG was founded in 2015 to conduct research on a consulting basis into the rates, revenues, costs, and economic performance of regulated firms and industries. The firm has a professional staff of four with expertise in economics, accounting, and cost analysis. Most of its work involves the development, preparation, and presentation of expert witness testimony before federal and state regulatory agencies.

Q. HAVE YOU PREPARED A SUMMARY OF YOUR QUALIFICATIONS AND EXPERIENCE, INCLUDING COST-OF-CAPITAL TESTIMONY IN REGULATORY PROCEEDINGS?

A. Yes. Exhibit MFG-1 is a summary of my qualifications, experience, and testimony given before state and federal regulatory agencies regarding cost of capital.

Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A. I am appearing on behalf of the Pennsylvania Office of Consumer Advocate ("OCA") before the Pennsylvania Public Utility Commission ("Commission").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to determine a fair rate of return on common equity capital and a fair overall rate of return for the electric utility company FirstEnergy Pennsylvania Electric Company ("FirstEnergy" or "Company"). FirstEnergy is a wholly owned

subsidiary of FirstEnergy Corp. FirstEnergy witness Dylan W. D'Ascendis testifies regarding return of equity, while FirstEnergy witness Bill Wang testifies about financial soundness, capital structure, and cost of capital. I respond to the testimonies of these Company witnesses.

Q. HOW DO YOU ADDRESS RECOMMENDED RATES FOR THE COMPANY?

A. To arrive at recommended rates for common equity capital and overall cost of capital, I analyze the Company's capital structure and the costs for each component of that structure, including the return on equity and cost of debt.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized as follows:

1) First, I discuss economic considerations and legal precedents underlying the cost of equity in regulatory proceedings.

2) Second, I provide an overview of return on equity ("ROE") analysis.

3) Third, I explain how I selected the members of the Comparison Group of companies used in my analysis.

4) Fourth, I provide an overview of the Discounted Cash Flow ("DCF") analysis.

5) Fifth, I perform a CAPM analysis for the Comparison Group.

6) Sixth, I recommend a return on equity ("ROE") for the Company and check it for reasonableness.

7) Seventh, I perform a capital structure analysis.

8) Eighth, I recommend a capital structure and ROR for the Company.

9) Ninth, I review the Company's cost of capital analysis.

10) Tenth, I summarize my testimony and recommendations.

Q. PLEASE STATE YOUR CONCLUSIONS REGARDING THE COMPANY'S ROE AND ROR.

A. I recommend an ROE of no more than 9.48 percent for FirstEnergy. In this testimony I further recommend that the Company's ROE be reduced 10 basis points as a penalty for service that is not efficient, effective, and adequate, moving the ROE to 9.38 percent. For FirstEnergy's capital structure, my analysis shows that for ratemaking purposes ratios of 50.00 percent long-term debt and 50.00 percent common equity are appropriate. When the ROE of 9.48 percent is included in the recommended capital structure with the Company's 4.56 percent cost of long-term debt,[1] the result is an ROR of 7.02 percent. With the ROE at 9.38 percent the ROR is 6.97 percent.[2]

II. The Cost of Equity in the Regulatory Environment

A. The Role of Economic Theory

Q. WHAT IS THE BASIS IN ECONOMIC THEORY FOR REGULATING CERTAIN INDUSTRIES?

A. According to economic theory, the forces of supply and demand interacting in a competitive environment produce an allocation of resources that yields an optimal mix of goods and services. Firms and individuals maximize profits and satisfaction given the prices and incomes that the interplay of market forces generates. This outcome is described as economically efficient. Put simply, there is no better output of goods and services that can be produced with the available resources.

[1] Direct Testimony of Bill Wang, Statement No. 11, page 6 [hereinafter "Wang Direct"].
[2] Exhibit MFG-20, Schedule 3.

Q. DOES THE ECONOMICALLY EFFICIENT OUTCOME OCCUR IN ALL INDUSTRIES?

A. No, several conditions must be present, including many buyers and sellers, identical products, perfect information about prices, and so forth. If these conditions exist, then price is the only way for providers of goods and services to compete in markets. If the conditions for competition do not exist, however, then letting supply and demand work unfettered will not produce the socially desired efficient outcome.

Q. ARE THERE LEGAL OBSTACLES TO COMPETITION IN PUBLIC UTILITY MARKETS?

A. Yes. Even if a firm is willing and able to raise the capital needed to be a viable electric distribution company, state and local governments typically have permitting processes that govern where and when utilities can build facilities. Thus, high start-up costs are not the only barrier that must be overcome.

Q. ARE THERE OTHER ASPECTS OF AN ELECTRIC DISTRIBUTION UTILITY'S COSTS THAT RESULT IN FEW SELLERS?

A. Yes. The electric utility industry is what is typically known as a declining-cost industry.

Q. WHAT IS A DECLINING-COST INDUSTRY?

A. A declining-cost industry is one where the average cost of service declines over the range of effective demand.

Q. IS A DECLINING AVERAGE COST OF SERVICE SUFFICIENT FOR AN INDUSTRY TO BE TERMED "DECLINING COST?"

A. No. In fact, average costs decline in most industries as production and sales increase. However, in these industries, average cost eventually rises and does so at a sales level that

is smaller than the total demand for the product in a given industry. Consequently, a few too many firms share the market because, beyond the sales volume at which average costs rise, firms lose cost advantage.

Q. ARE PUBLIC UTILITIES DECLINING-COST INDUSTRIES?

A. Yes. With their high fixed costs, public utilities have high initial average costs, but as their sales increase, the average cost drops. What qualifies public utilities as a declining-cost industry is that their average costs continue to decline over very high volumes of sales, up to and beyond total, or effective, market demand for the product. This condition creates market failure (*i.e.*, when the market produces an outcome that is inefficient). As an electric distribution firm increases its sales and market share, its average costs decline, and continue to do so. Thus, the firm with the largest market share has an increasing cost advantage over competitors. In effect, there is not enough room in the market for another distributor. The logical result is a market with one distributor—often referred to as a natural monopoly.

Q. HOW HAS SOCIETY RESPONDED TO THE ABSENCE OF COMPETITION IN PUBLIC UTILITY MARKETS?

A. Since sufficient competition does not exist in the markets for public utilities to ensure competitive prices and adequate service, society has typically turned to regulation to achieve these goals. Firms are granted exclusive franchises to serve areas in return for accepting government regulation of their prices. The government regulators generally are charged with pursuing an outcome that approximates the efficient outcome of the competitive model. Regulation is viewed as a way to decrease prices and increase services provided by a natural monopoly. A challenge for regulators is to set policies that ensure the regulated firm provides an appropriate supply of services at reasonable rates. A

reasonable rate enables a public utility not only to recover its operating expenses, depreciation, and taxes, but also to compete for funds in capital markets.

B. Standards for Finding a Fair Rate of Return

Q. DO STANDARDS EXIST FOR DETERMINING A FAIR RATE OF RETURN?

A. Yes. Two United States Supreme Court ("Court") cases are the basis for rate of return regulation in the United States. They are the *Bluefield Water Works*[3] and the *Hope Natural Gas*[4] cases. In *Hope*, the Court established the following standards for the return on equity that must be allowed a regulated public utility to provide for a "reasonable return":

> [T]he return to the equity owner should be commensurate with the returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[5]

It can be seen from this excerpt that there are essentially three standards for determining an appropriate return on equity from the standpoint of the equity owners of a regulated utility. The first is the "comparable earnings" standard—the earnings must be "commensurate with the returns on investments in other enterprises having corresponding risks." The second is that earnings must be sufficient to assure "confidence in the financial integrity of the enterprise." The third is that earnings must allow the utility to "attract capital."

---

[3] *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia,* 262 U.S. 679 (1923).
[4] *Federal Power Commission v. Hope Natural Gas Co.,* 320 U.S. 591 (1944).
[5] *Id*. at 603.

Q. CAN THE COMPARABLE EARNINGS STANDARD BE APPLIED IN ESTIMATING THE RATE OF RETURN ON EQUITY CAPITAL?

A. No. There is circularity to the comparable earnings standard because the competitive nature of the capital markets virtually ensures that the returns to all enterprises are comparable with each other. Investors establish the price of each traded stock in capital markets based on prospective earnings and perceived risk. The prices for common equity for companies with high earnings are bid up, while the prices for companies with low earnings are bid down. If earnings were the only concern, the ratio of earnings to share prices, the return for investors, would become equal for all companies. However, investors recognize relative risk as they buy and sell common equity shares. For companies with high risk, share prices will be lower; for companies with low risk, share prices will be higher. Thus, the comparable earnings test becomes a nullity: All returns, because they are adjusted for risk, are comparable with all other returns.

Q. HOW IS THIS CIRCULARITY TYPICALLY RESOLVED IN PUBLIC UTILITY REGULATION?

A. In public utility regulation, the conventional procedure for resolving this circularity is to identify the required equity return based on the market value of a utility's stock. That return is combined with the cost of debt, and the blended return to total capital is then applied to a rate base reflective of the book value of the utility's investment. The book value is the accountant's quantification of the depreciated original cost of the utility's assets adjusted for ratepayer contributions such as deposits and deferred taxes. Under this procedure, the market price of a stock is used only to determine the return that investors expect from that stock. That expectation is then applied to the book value of the utility's investment to

identify the level of earnings that regulation will allow the utility's common shareholders to recover.

Q. HOW CAN THE FINANCIAL INTEGRITY AND CAPITAL ATTRACTION STANDARDS ENUNCIATED IN *HOPE* BE APPLIED IN ESTIMATING THE RATE OF RETURN ON EQUITY CAPITAL?

A. If a utility can earn a return on its investment comparable to that required by enterprises of comparable risk, then it should have no difficulty in attracting capital and maintaining credit. Investors would have no reason to pass on purchasing the common equity of such a utility in favor of other investment opportunities. Thus, if the comparable earnings test is met, then the financial integrity and capital attraction standards are met as well.

Q. WHAT IS RISK?

A. Risk is the chance that an investment will lose value. A business, for example, may introduce a new product, supporting it with investment in plant and equipment. There is, of course, no guarantee that consumers will purchase the product, putting the investment in the plant and equipment at risk. The risk investors attach to the company varies inversely with their view as to the probability of the product doing well. In general, the greater the risk of an investment, the greater the return required to attract investors, and vice versa.

Q. DOES SETTING AN ALLOWED RATE OF RETURN MEAN THAT THE UTILITY WILL EARN THAT RETURN?

A. No. There is no guarantee that the utility will earn the allowed rate of return. The utility has the reasonable *opportunity* to earn the allowed rate of return; in practice, the utility may earn more or less than this return, depending on whether and how its management responds to technological and market developments, among other matters.

Q. WHAT SHOULD THE COMMISSION CONSIDER IN SETTING AN APPROPRIATE RATE OF RETURN?

A. The Commission should look to current market conditions as it balances investor and consumer interests. In this case, the rate of return should reflect the condition of the capital markets in which FirstEnergy will have to compete with other firms for funding. Historically allowed rates and historical performances are not appropriate inputs in this forward-looking approach. This statement, however, does not mean that historical rates and performance are irrelevant. They are factors because they affect investors' views of a company's prospects and, therefore, the investors' willingness to purchase its common equity shares.

Q. PLEASE EXPLAIN HOW THE METHODS YOU USED TO DETERMINE THE COST OF COMMON EQUITY CAPITAL FOR THE COMPANY REFLECT CURRENT MARKET CONDITIONS.

A. I used a market-oriented approach to determine the common equity cost for the Company. I analyzed the equity return that investors currently expect to receive from investing in companies with risk like the risk of the Company. Many factors influence these investor expectations, among them: past performance of the companies, estimates of how the companies will perform in the future, possible technological change, tax rates, and predicted general economic conditions. As investors decide where to place their funds among the investment options available to them, they weigh the information they have. Then they decide how much to pay to acquire common equity shares, or to turn to the other side of the question, what price will lead them to sell the shares. Either way, the factors are

reflected in current prices in capital markets. Thus, my analysis is forward-looking because it relies on investors' current assessment of what is likely to happen with their investments.

Q. WHAT IS THE ROLE OF OPPORTUNITY COSTS IN YOUR ANALYSIS?

A. An opportunity cost is the value of the next best choice forgone as the result of making a decision. Opportunity costs are central to my analysis. As investors decide where to place their assets, they have many opportunities from which to choose in the financial markets. Economic theory says they will choose the opportunity they think will provide them the best return, accounting for the level of risk with which they are comfortable. Thus, for a company to attract capital, its forward-looking fair rate of return must at least equal the expected rate of return for the best alternative opportunity with similar risk.

III. Overview of the Return on Equity Analysis

Q. HOW DO YOU KNOW WHAT EQUITY RATE OF RETURN THE COMPANY MUST OFFER TO INVESTORS TO BE AN ATTRACTIVE OPPORTUNITY?

A. No one knows with certainty what specific rate of return the Company must offer to investors that is sufficient to make the Company an attractive opportunity. However, various methods based on finance theory have been derived for reliably estimating what investors currently think that rate is.

Q. PLEASE IDENTIFY THE METHODS YOU HAVE ADOPTED IN YOUR ROE ANALYSIS.

A. I use the Discounted Cash Flow ("DCF") method, which is widely used in utility general rate cases, and is a method relied on by the Commission in determining rate of return. I also include the results of the Capital Asset Pricing Model ("CAPM"), combining them with the DCF results for my recommended ROE. I use recently authorized returns for

electric utility operating companies in U.S. jurisdictions as a check on the reasonableness of the ROE outcome.

Q. PLEASE SUMMARIZE THE DCF METHOD.

A. The DCF model uses the current dividend yield and the expected growth rate of this yield to determine a required rate of return on an investment opportunity. The required rate of return from a DCF analysis is derived from a formula for determining the net present value, or price, of a share of stock. There are several variations of the DCF, but the constant-growth form I have selected assumes that dividends (D) are received at the end of each year, the annual growth rate of dividends (g) is constant forever, and the discount rate for dividends (k) is constant forever. The equation form of this constant-growth DCF model is the following:

$$k = \frac{D_1}{P_0} + g$$

Where:

k is the discount rate, which also is the fair rate of return for equity;

D_1 is the annual dividend one year from the present;

P_0 is the current price of a stock share; and

g is the expected growth rate of the dividend.

Q. HOW IS THE ANNUAL DIVIDEND ONE YEAR FROM THE PRESENT CALCULATED?

A. The annual dividend one year from now is derived by applying the growth-rate estimate (g) to the actual current annual dividend (D_0). The equation form is:

$$D_1 = D_0 * (1 + g)$$

Q. PLEASE DESCRIBE THE ELEMENTS OF THE DCF MODEL.

A. The first element of the DCF model is the dividend-yield component, while the second element is the dividend growth-rate component. The sum of these two components produces the required ROE for a company.

Q. PLEASE DISCUSS THE CAPM METHOD.

A. The premise of the CAPM method is that any risk which is company-specific can be diversified away by investors. Therefore, the only risk that matters is the systematic risk of the stock. This systematic risk is measured by beta (β). Expressed simply, the CAPM assumes the following form:

$k = r + \beta (k_m - r)$

Where:

k is the required rate of return for the subject stock;

β is beta, the measure of systematic risk;

r is the rate of return on a riskless asset; and

$(k_m - r)$ is the "equity risk premium" above the risk-free rate required by investors

Q. PLEASE CHARACTERIZE THE CAPM METHOD.

A. In the CAPM method, the required ROE for a company also is the sum of two components. The first of these is the return on a riskless asset. To this base value, a return is added that reflects the additional rate of return earned by other companies in the broad equity market adjusted for the risk of the subject company relative to the risk of an average company in the market. The subsequent amount thus reflects the risk of the subject company.

Q. DOES YOUR EQUITY RATE OF RETURN ANALYSIS USE FINANCIAL INFORMATION FOR FIRSTENERGY?

A. No. As noted, FirstEnergy is an operating subsidiary of FirstEnergy Corp. FirstEnergy is not publicly traded, so common equity share price information is unavailable. Therefore, a direct DCF analysis cannot be performed on the Company.

Q. DOES YOUR EQUITY RATE OF RETURN ANALYSIS USE FIRSTENERGY CORP. INFORMATION?

A. Yes. FirstEnergy Corp. has a Standard & Poor's ("S&P") credit rating of BBB.[6] This credit rating reflects S&P's evaluation of the risk for the parent company. Meanwhile, FirstEnergy has a separate S&P credit rating of BBB+.[7] A credit rating is one criterion that I applied in selecting electric utilities that are similar in risk to FirstEnergy.

Q. HOW DO YOU USE THE ROE ANALYSIS TO ESTIMATE THE COMPANY'S REQUIRED RATE OF RETURN?

A. I performed an ROE analysis on a group of electric utilities comparable to FirstEnergy that are publicly traded and have similar investment risk, as discussed below. The estimated rates of return for members of this group form the basis for my estimate of a fair rate of return for the Company.

[6] Exhibit MFG-2.
[7] Exhibit MFG-3.

IV. Selecting the Comparison Group

Q. PLEASE DISCUSS YOUR PROCEDURE FOR SELECTING THE COMPARISON GROUP.

A. I set out to find a group of companies that are, from the perspective of investors, like FirstEnergy. Thus, I wanted firms that are electric utility companies that represent approximately the same investment risk as the Company.

Q. PLEASE DESCRIBE HOW YOU FOUND SUITABLE CANDIDATE COMPANIES FOR THE COMPARISON GROUP.

A. I looked at Value Line, a widely used investor service, for companies that Value Line classifies as members of the Electric Utility Industry. The set of companies in this industry downloaded from the Value Line website on June 12, 2024, included 39 companies.[8]

Q. WAS FIRSTENERGY ONE OF THE 39 COMPANIES IN THE VALUE LINE ELECTRIC INDUSTRY?

A. Yes. I removed FirstEnergy from consideration for the Comparison Group. I prefer not to include a subject company or its parent or subsidiary in the Comparison Group because doing so creates circularity in calculating a return. On the other hand, a concern in selecting a proxy group is that there be enough members, so that no one company's results strongly affect the ROE analysis outcome. There are enough electric utilities available that the Comparison Group can be formed without including FirstEnergy.[9]

[8] Exhibit MFG-4.
[9] Exhibit MFG-5.

Q. WHAT WAS THE NEXT STEP IN YOUR SELECTION PROCESS?

A. I applied screens to the initial set of Value Line Electric Utility companies to ensure that the companies included in my Comparison Group were similar in risk to the risk of the Company. [10]

Q. PLEASE LIST THE CRITERIA YOU APPLIED IN THE SELECTION OF THE COMPARISON GROUP.

A. I applied the following screens to the initial set of Electric Utility companies:

1) firm with significant U.S.-based operations;
2) shares publicly traded on a stock exchange;
3) a stable record of paying dividends;
4) not be expected to sell, merge into or be acquired by another company, or be engaged in an unusual regulatory proceeding;
5) have a Standard & Poor's credit rating of BBB to A-;
6) have positive growth-rate projections from expert analysts; and
7) have 75 percent or more of the three-year average of net operating income, net income, or operating revenue be derived from regulated electric operations.

Q. WHAT IS THE PURPOSE OF APPLYING THE CRITERION THAT THE COMPANIES BE BASED IN THE CONTINENTAL UNITED STATES?

A. I sought companies that face a business environment like that in which FirstEnergy operates. The Company's operations are in Pennsylvania, and it is subject to state regulation, statutes, and rules that are like those found in the rest of the United States. No

[10] Exhibit MFG-5.

companies were excluded for not being U.S.-based. There were two Canada-based utilities with U.S. operations in the initial set, Emera Incorporated and Fortis Inc., that have U.S. operations. I continued to consider them, applying the other screens to the operations of these two utilities.

Q. WHAT PURPOSE IS SERVED BY REQUIRING THAT THE COMPANIES BE PUBLICLY TRADED?

A. One analytical tool that I used for finding a company's ROE, the DCF model,[11] requires information about common equity share prices, dividends, and growth-rate projections. The requirement that companies be publicly traded ensures that their common equity share prices are available. All the Value Line Electric Utility companies are publicly traded.[12]

Q. WHAT PURPOSE IS SERVED BY REQUIRING THAT THE COMPANIES HAVE A STABLE RECORD OF PAYING DIVIDENDS?

A. The DCF model requires dividends as an input. If a company is not paying dividends or has a record of cutting dividends, then its DCF analysis is not reliable. PG&E Corporation has been in bankruptcy and only resumed paying dividends (1 cent a share) in the first quarter of 2024. Therefore, PG&E was excluded.[13]

Q. WHY IS IT IMPORTANT THAT COMPANIES INVOLVED IN SALES, MERGERS, OR ACQUISITIONS, BE EXCLUDED FROM YOUR ANALYSIS?

A. The share prices of companies involved in sales, mergers or acquisitions can be volatile. Extreme increases in the share prices of companies that are part of sales, mergers, or

[11] As will be seen in a later section, the forward-looking CAPM as I have applied it incorporates a DCF analysis and, thus, also relies on publicly traded companies.
[12] Exhibit MFG-4.
[13] Exhibit MFG-5.

acquisitions drive down the ROE results in DCF analysis, while extreme decreases in the share prices drive up the ROE results. Neither outcome yields meaningful DCF results. Therefore, it is appropriate to exclude such companies from the analysis.

Q. WERE ANY COMPANIES IN THE INITIAL SET INVOLVED IN SALES, MERGERS, OR ACQUISITIONS?

A. Yes. ALLETE, Inc. is being acquired and taken private by the Canadian Pension Plan Investment Board and Global Infrastructure Partners.[14] CenterPoint Energy announced on February 27, 2024, that it will sell its Louisiana and Mississippi natural gas operations with a target completion date of the first quarter of 2025.[15] In addition, Avangrid, Inc. ("Avangrid") announced on March 7, 2024, that it received an offer from Iberdrola, S.A. ("Iberdrola") to acquire the 18.4 percent of Avangrid that Iberdrola does not already own.[16] Prior to the Iberdrola offer to Avangrid, Avangrid had tried to acquire PNM Resources. The New Mexico Public Regulatory Commission had rejected the acquisition once. Iberdrola has withdrawn the Avangrid pursuit of PNM Resources. Therefore, PNM Resources' future remains uncertain.[17] ALLETE, CenterPoint, Avangrid, and PNM Resources were excluded because of these activities.

Q. WHAT IS THE PURPOSE OF USING THE S&P CREDIT RATING AS A SCREEN?

A. S&P's experts incorporate financial risk and business risk into a firm's credit rating. Within these risk categories, S&P assesses such factors for public utilities as competitive

[14] Exhibit MFG-6.
[15] Exhibit MFG-7.
[16] Exhibit MFG-8.
[17] Exhibit MFG-9.

advantage, operating efficiency, operating assets, and scale, scope, and diversity. This last set of factors includes the effects of a utility's markets, service territories, and customer diversity on the company's cash-flow stability, and in turn on its risk level. After considering all the factors, S&P assigns a credit rating to a company. If companies have identical or similar credit ratings as determined by expert analysts, then their relative risks are similar. As S&P states:

> Creditworthiness is a multi-faceted phenomenon. Although there is no "formula" for combining the various facets, our credit ratings attempt to condense their combined effects into rating symbols along a simple, one-dimensional scale. Indeed, as discussed below, the relative importance of the various factors may change in different situations.[18]

Q. PLEASE DESCRIBE YOUR APPLICATION OF THE S&P CREDIT RATING SCREEN.

A. Recall from above that the FirstEnergy Corp. S&P credit rating was BBB and the FirstEnergy credit rating was BBB+. Both these ratings are investment grade. Please note that the credit rating screen does not require that companies have the exact same credit rating as the subject company. The credit rating need only be like that of the subject company. The narrower the range of the credit rating, the more like the subject company's risk are the risk profiles of the companies within the range. However, the goal of having companies with risk like that of the operating company must be balanced with the goal of having a reasonable number of companies in the Comparison Group, so that no one company's result strongly influences the outcome.

[18] Exhibit MFG-10.

Q. WHAT WAS THE RESULT OF YOUR APPLICATION OF THE CREDIT RATING SCREEN IN THIS DOCKET?

A. There were 33 companies remaining from the original group of 39 after the previous screens were applied. Of these utilities, MGE Energy, Inc. does not have an S&P credit rating and was excluded. Hawaiian Electric Industries has a B- S&P credit rating, below investment grade.[19] The remaining companies had investment-grade credit ratings in the narrow band and of BBB to A-.[20] These credit ratings also are in the range of the FirstEnergy Corp. credit rating of BBB and the FirstEnergy credit rating of BBB+, indicating that they face similar risk.

Q. YOU REQUIRED THAT ELECTRIC UTILITIES HAVE POSITIVE EARNINGS PER SHARE ("EPS") GROWTH-RATE FORECASTS TO BE INCLUDED IN THE COMPARISON GROUP. WHAT PURPOSE DOES THIS SCREEN SERVE?

A. If the growth-rate projections are negative or missing, then any DCF analysis performed on them is not meaningful. Of the 31 companies still under consideration for the Comparison Group, Exelon Corporation does not have meaningful dividends per share ("DPS") growth-rate forecasts. The company recently spun off its unregulated generation units, meaning it is operating from a new baseline.[21]

[19] Exhibit MFG-5.
[20] Exhibit MFG-11.
[21] Exhibit MFG-12.

Q. FINALLY, YOU REQUIRED THAT MORE THAN 75 PERCENT OF A COMPANY'S THREE-YEAR AVERAGE OF AN INCOME OR REVENUE INDICATOR BE DERIVED FROM REGULATED ELECTRIC UTILITY OPERATIONS IN ORDER TO BE INCLUDED IN THE COMPARISON GROUP. PLEASE EXPLAIN THE PURPOSE OF THIS CRITERION.

A. For the firms to have similar risks, they must operate in similar business environments. The Company is predominantly a regulated electric utility operation, so the firms considered for the Comparison Group also must have predominantly regulated operations. This criterion ensures that most of the Comparison Group firms' operations are in the same environment as that of the Company.

Q. WHAT WAS THE OUTCOME OF YOUR APPLICATION OF THIS SCREEN?

A. I included 15 of the remaining 30 companies in the Comparison Group after applying the operating income/net income/operating revenue screen.[22]

Q. PLEASE DESCRIBE THE COMPARISON GROUP AFTER YOUR SCREENING.

A. The Comparison Group is composed of Alliant Energy Corporation, Ameren Corporation, American Electric Power Co., Duke Energy, Edison International, Entergy Corporation, Evergy, Inc., Eversource Energy, IDACORP, Inc., NorthWestern Corporation, OGE Energy Corp., Pinnacle West Capital Corp., Portland General Electric Co., Southern Co., and Xcel Energy, Inc.[23]

[22] Exhibit MFG-13.
[23] Exhibit MFG-14.

Q. PLEASE COMPARE THE MEMBERSHIP OF FIRSTENERGY WITNESS MR. D'ASCENDIS'S PROXY GROUP WITH THE MEMBERSHIP OF YOUR COMPARISON GROUP.

A. FirstEnergy Witness Mr. D'Ascendis's Proxy Group was composed of 14 electric utilities.[24] All of those companies were members of the Comparison Group. The electric utility I included that Mr. D'Ascendis did not is Eversource Energy.

V. DCF Model Overview

Q. WHAT IS THE PURPOSE OF A DCF ANALYSIS?

A. The goal of this analysis was to estimate an appropriate, forward-looking rate of return on equity. A DCF analysis requires a determination of expected growth rates and dividend yields to estimate this return.

Q. PLEASE DISCUSS EXPECTED GROWTH RATES.

A. Because a DCF analysis is forward-looking, I want to estimate the expected growth rate of dividends. Historical growth rates would be good indicators of the expected growth rate if both of the following are true:

1) the dividend payout ratio and the realized rate of return on equity capital were constant in the past and could be assumed to remain constant in the future; and

2) any growth in book equity was attributable solely to retained earnings.

[24] Direct Test. of Dylan D'Ascendis on behalf of FirstEnergy, FE PA Statement No. 10 (April 2, 2024) [hereinafter "D'Ascendis Direct"].

If, in practice, these conditions held, then earnings per share ("EPS"), dividends per share ("DPS"), and book value per share ("BPS") would all grow at the same rate, and the past growth rates for these factors would be the rate at which they would grow in the future.

Q. DID YOU USE HISTORICAL GROWTH RATES IN YOUR ANALYSIS?

A. No. The conditions necessary for historical growth rates to be good indicators of future growth rates are rarely satisfied. Most utilities' returns on equity and payout ratios have not remained constant over time. Further, growth in book value has occurred not only due to retained earnings, but also due to the issuance of new shares of common stock. Consequently, past growth rates of earnings, dividends, and book equity are frequently unequal. Moreover, an industry may face a changed business environment, thereby making the past a poor basis for projecting the future. Historical growth rates can differ significantly from forward-looking projected growth rates due to such factors as inflation rates, tax rates, the role of an industry in the economy, and the regulatory environment. In view of these limitations of using historical growth rates, I based my estimated growth rates on projected growth rates as publicly provided by *The Value Line Investment Survey*.

Q. PLEASE DISCUSS THE DIVIDEND YIELDS USED IN YOUR DCF ANALYSIS.

A. To estimate the required rate of return on equity capital today, I estimated the expected dividend yield, D_1/P_0 where P_0 is the price of a share of common equity today and D_1 is the dividend in the next period. To find the dividends expected a year from now, I multiplied the current annual dividends paid by 1 plus the DPS growth rates for each company. The use of this dividend yield assumes that dividends are distributed at the end of each period (year). Since the current equity share price incorporates all market information considered relevant by investors, generally speaking, non-recent historical

prices should be avoided in calculating the dividend yield. However, since share prices are volatile in the short run, it is desirable to use a period long enough to avoid short-term aberrations in the capital market.

Q. WHAT COMMON EQUITY SHARE PRICES DID YOU USE IN YOUR DCF ANALYSIS?

A. I used the average of four weeks of share prices for each electric utility. This period achieves the goals of using current information and avoiding cases where short-run volatility causes common-equity share prices to be unrepresentative of the value investors place on a company.

VI. DCF Analysis for the Comparison Group

A. Constant-Growth DCF Analysis

Q. PLEASE DISCUSS THE REQUIRED RATE OF RETURN FOR THE COMPARISON GROUP.

A. To estimate the required rate of return for the group, I found the expected growth rate, g, and the expected dividend yield, D_1/P_0, for each Comparison Group company. I applied the DCF model to the inputs to find an ROE for each electric utility. Finally, I averaged the ROEs to find my DCF ROE for FirstEnergy.

Q. WHAT PERIOD DID YOU USE TO ESTABLISH AVERAGE COMMON EQUITY SHARE PRICES FOR THE COMPANIES IN THE COMPARISON GROUP?

A. To find average common equity share prices, I used the trading period of May 6, 2024, to May 31, 2024. This four-week period is long enough to dampen any short-term aberrations

in the capital market. I used closing prices for the Comparison Group member companies obtained at Yahoo! Finance.[25]

Q. HOW DID YOU DETERMINE THE DIVIDENDS FOR THE COMPARISON GROUP COMPANIES?

A. I used the dividends that each Comparison Group company is currently paying as reported by Value Line on April 19, 2024, May 10, 2024, and June 7, 2024.[26] I annualized the dividends by taking the most recent reported quarterly dividend for each utility and multiplying it by four.

Q. WHAT ASSUMPTION IS MADE ABOUT THE EXPECTED GROWTH RATE IN THE CONSTANT-GROWTH DCF MODEL?

A. In the constant-growth DCF model, it is assumed that current DPS growth rates continue to infinity. I used, as is commonly done, forecasts of DPS growth rates for five years and assumed those growth rates will continue.

Q. PLEASE DISCUSS THE EXPECTED GROWTH RATE FOR THE COMPARISON GROUP.

A. As noted above, it is appropriate in this proceeding to use only the forecasted growth rates to estimate the expected growth rate to be used in the DCF analysis. Value Line provides five-year growth rate projections for DPS.

[25] Exhibit MFG-15.
[26] Value Line divides the Electric Industry into three regions and reports one region a month on a rotating basis. The regions reported for the respective dates are the West, East, and Central.

Q. WHAT INFORMATION DID YOU USE FROM VALUE LINE?

A. I used the Value Line DPS five-year growth projections for the individual firms in the Comparison Group as reported by Value Line at its website on April 19, 2024, May 10, 2024, and June 7, 2024.[27]

Q. PLEASE DISCUSS YOUR CALCULATION OF THE EXPECTED DIVIDEND YIELD FOR THE COMPARISON GROUP.

A. The appropriate dividend to use in the constant-growth DCF model is the annual dividend rate at the beginning of the next period (year). I began my estimation of the expected dividend yield by finding the dividends that each Comparison Group member company was currently paying, as noted above.

Q. PLEASE CONTINUE.

A. Next, I adjusted the annualized dividends for expected growth. The dividends of all the companies in the Comparison Group are expected to increase over the next year. I applied a full year's growth rate for a firm to the annualized dividend and added the product to the annualized dividend yield to transform it into the expected dividend yield.[28] The equation for this operation is:

$$\frac{D_1}{P_0} = \frac{D_0}{P_0}(1+g)$$

Applying this equation to the dividend yield for each company yielded the D_1 values that I use in my estimates.[29]

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[27] Exhibit MFG-17, Schedule 1.
[28] I followed this rule of applying a full year's growth to the current dividend in my CAPM analysis as well as in this DCF model analysis. My adjustment is larger than that of Mr. D'Ascendis.
[29] Exhibit MFG-17, Schedule 1.

B. Flotation Costs

Q. PLEASE DEFINE FLOTATION COSTS.

A. When companies issue equity, the price paid by investors for the new shares is higher than the revenues per share received by the company. The difference is issuance, or flotation, costs. These costs are the fees and expenses the company must pay as part of the issuance. The return on equity can be adjusted to recognize this difference.

Q. DID YOU MAKE A FLOTATION COST ADJUSTMENT FOR THE COMPANY?

A. No. It is my understanding that the Commission has not specifically accepted flotation costs in arriving at an ROE determination. Therefore, I did not include flotation costs in my ROE results.

C. Minimum ROE Standard

Q. IS IT APPROPRIATE TO APPLY A MINIMUM STANDARD TO ROE RESULTS PRODUCED BY THE ROE MODELS?

A. Yes. Investors demand a higher return from common equity than from debt to compensate for the greater risk of common equity. The Federal Energy Regulatory Commission ("FERC") uses a minimum standard of the yield for Moody's 10-Year Baa Corporate Bonds plus 20 percent of the CAPM risk premium as a minimum ROE threshold. Investors faced with an ROE for a company below that threshold would choose the less-risky debt over common equity investment in the company. Thus, FirstEnergy would not be competing with these companies for capital.

Q. WHAT WAS THE MINIMUM STANDARD VALUE?

A. The average yield for the Moody's 10-year Baa Corporate Bond Yield Index was 5.94 percent over May 6, 2024, to May 31, 2024.[30] My CAPM analysis used β values from Value Line and the estimate of the current 5.50 percent equity risk premium (ERP) from Kroll, a provider of risk evaluation and information.[31] I found the mean of 20 percent of the CAPM risk premium for each analysis. The Value Line value was 1.10 percent. I added to this value the bond-yield value of 5.94 percent, resulting in a low-end test value of 7.04 percent.[32]

Q. DID YOU REMOVE ANY COMPANIES FROM THE DCF ANALYSIS BECAUSE THEY HAD ROE RESULTS THAT WERE UNREASONABLY LOW?

A. Yes. I eliminated Duke Energy with an ROE of 6.34 and Pinnacle West Capital with an ROE of 6.13 percent these because these ROEs were below the threshold. I kept the companies in my DCF analysis for illustrative purposes.[33]

Q. DID YOU REMOVE ANY OTHER COMPANIES FROM THE DCF ROE ANALYSIS?

A. No.

[30] Exhibit MFG-18 Schedule 5.
[31] Kroll, *Cost of Capital in the Current Environment*, June 2023 Update.
[32] Exhibit MFG-18, Schedule 5.
[33] Exhibit MFG-17, Schedule 1.

Q. WHAT ROE DID YOU FIND FOR YOUR CONSTANT-GROWTH DCF ANALYSIS?

A. For the remaining 15 companies, the mean ROE was 9.24 percent. The median ROE was 9.69 percent.[34]

D. Multistage DCF Analysis

Q. WHAT ASSUMPTION IS MADE ABOUT THE EXPECTED GROWTH RATE IN THE MULTISTAGE DCF MODEL?

A. In the multistage DCF model, it is assumed that the current growth rates are replaced by other growth rates in intervals after the present period. There are several possible approaches to a multistage analysis, but in many of the variations, a long-run gross domestic product ("GDP") growth rate is adopted after the first stage.

Q. WHAT LOGIC SUPPORTS ADOPTING GDP GROWTH RATES AFTER THE FIRST STAGE OF A MULTISTAGE DCF ANALYSIS?

A. The logic for adopting a long-run GDP growth rate after the first stage of a multistage analysis is that a company cannot sustain growth faster than the growth rate of the economy as a whole over the long run.

Q. PLEASE IDENTIFY YOUR LONG-RUN GDP GROWTH RATES.

A. It was my opinion that the second-stage DPS growth rates will be like the long-run GDP growth rate forecasts of the Social Security Administration ("SSA") and the Energy Information Administration ("EIA"). I calculated long run GDP growth rates from 2030-

[34] Exhibit MFG-17, Schedule 1.

2050 from information published by these two agencies.[35] The SSA rate is 4.04 percent,[36] while the EIA rate is 4.33 percent.[37]

Q. PLEASE DESCRIBE YOUR MULTISTAGE DCF ANALYSIS.

A. I applied what is sometimes called a blended approach to my multistage DCF analysis. In this approach, all inputs other than the EPS growth rates are the same as in the constant-growth DCF analysis. I continued to use the five-year DPS forecasts in the first stage but used the weighted long-run GDP growth rate as my second-stage DPS input. At that point, I blended the two growth rates by weighting the average of the five-year DPS forecasts two-thirds and the long-run weighted GDP growth rate one-third. This approach is set forth in a widely used regulatory handbook.[38]

Q. DID YOU REMOVE ANY COMPANIES FROM THE MULTISTAGE DCF ANALYSIS BECAUSE THEY HAD ROE RESULTS THAT WERE UNREASONABLY LOW?

A. Yes. I eliminated Pinnacle West Capital with an ROE of 7.02 percent because this ROE was below the threshold. I kept the company in my DCF analysis for illustrative purposes.[39]

Q. WHAT IS THE RESULT OF YOUR MULTISTAGE DCF ANALYSIS?

A. After weighting the ROE results for the SSA approach and the EIA approach equally, the mean ROE for the 15 companies was 8.84 percent. The median ROE was 9.21 percent.[40]

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[35] The SSA and EIA GDP growth rates are "nominal." They reflect current prices and include inflation.
[36] Exhibit MFG-17, Schedule 2.
[37] Exhibit MFG-17, Schedule 3
[38] Exhibit MFG-17, Schedule 4; Roger Morin, *New Regulatory Finance* 309 (2006).
[39] Exhibit MFG-17, Schedule 1.
[40] Exhibit MFG-17, Schedule 5.

Q. HAVE YOU ADJUSTED YOUR DCF ROE TO ACCOMMODATE FACTORS OTHER THAN DPS GROWTH RATE CHANGES?

A. No. The DCF model incorporates factors that affect investors' view of the world. The share price of common equity is the mechanism through which these influences are translated. For example, investors' beliefs about future interest-rate levels on the economy are translated into common equity share prices. The same is true of the effect on those prices of changes in federal fiscal policy. Either case affects the ROE of the company. Other factors that are incorporated into share prices are environmental regulations, market volatility, and leverage of companies. Investors will ask for common equity prices that compensate them for the degree of risk that they believe these factors create.

VII. CAPM Analysis for the Comparison Group

Q. WHAT ARE THE STRENGTHS AND WEAKNESSES OF THE CAPM?

A. The CAPM is theoretically sound, but its application raises issues. The analysis using CAPM selects a riskless asset, beta, and market risk premium. The ROE analysis can vary considerably depending on the analyst's choices for these variables. Thus, what at first may seem like a model that is straightforward instead depends heavily on the input values used by an analyst.

Q. WHAT INSTRUMENT DID YOU USE AS YOUR RISKLESS ASSET?

A. The analyst must select the riskless asset. Short-term assets such as 90-day Treasury Bills are considered to be virtually riskless; the default risk is next to nothing, and the inflation risk is negligible. Equity investors, however, typically have a longer planning horizon than the 90-day maturity of these instruments, so the return on these bills is not suitable for this CAPM process. Long-Term Treasury bonds, on the other hand, match the planning horizon

and have yields that are closer to common equity returns. But these instruments are subject to substantial inflation risk and, therefore, are not riskless. Nevertheless, I adopted the 30-year U.S. Treasury yield as my risk-free rate. Its favorable characteristics outweigh its unfavorable characteristics.

Q. WHAT PERIOD DID YOU USE FOR THE 30-YEAR TREASURY YIELD IN YOUR CAPM ANALYSIS?

A. I used the average yield on a 30-year Treasury bond for May 6, 2024, to May 31, 2024, as my riskless asset rate. This average yield was 4.60 percent.[41] This approach to calculating the risk-free rate is consistent with how I found common-equity share prices within the DCF model.

Q. WHY DID YOU USE THE RECENT 30-YEAR TREASURY YIELD IN YOUR CAPM ANALYSIS?

A. Current yields on the 30-year Treasury bond are the best risk-free rate for the CAPM analysis. Much like current common equity share prices reflect all information about factors affecting the value of the shares, so too do current bond yields capture the beliefs of investors as to where yields on the instruments are headed.

Q. WHAT VALUES DID YOU USE FOR BETA (β)?

A. I used the betas for each company in the Comparison Group taken from *The Value Line Investment Survey* reports of April 19, 2024, May 10, 2024, and June 7, 2024.[42] These beta values are Value Line's latest assessment for each company.

[41] Exhibit MFG-18, Schedule 1.
[42] Exhibit MFG-18, Schedule 2.

Q. HOW IS BETA (β) INTERPRETED?

A. A beta of 1 indicates that a company's share price will move with the market, while a beta higher than 1 indicates that a stock will be more volatile than the market, and a beta lower than 1 indicates that a stock will be less volatile than the market.

Q. WHAT DID YOU USE AS THE EQUITY RISK PREMIUM?

A. I used Kroll's ERP estimate of 5.5 percent.[43] This value reflects the opinion of the company's corporate risk experts.

Q. WHAT WAS THE NEXT STEP IN CALCULATING THE CAPM ROE?

A. I multiplied the ERP by the beta for each Comparison Group company to find that company's risk premium (RP). [44]

Q. WHAT WAS THE FINAL STEP IN CALCULATING THE CAPM ROE?

A. I added the RP for each Comparison Group company to the ERP to find a specific company's CAPM ROE. [45]

Q. DID YOU APPLY SCREENS FOR OUTLIER CAPM ROES?

A. Yes. The Federal Energy Regulatory Commission (FERC) applies a Low-End and High-End Test to CAPM ROEs. My Low-End Test is the same as the minimum threshold for DCF ROEs, the four-week average of the Moody's 10-year Baa Corporate Bond Yield Index plus 20 percent of the CAPM risk premium. As noted previously, that value is 7.04 percent. The sum of the two elements is 7.04 percent. The High-End Test is 200 percent of the median value of all companies included in the analysis. That test value is two times

[43] Kroll, *Cost of Capital in the Current Environment*, June 2023 Update.
[44] Exhibit MFG-18, Schedule 4.
[45] Exhibit MFG-18, Schedule 4.

9.83 percent, or 19.65 percent (rounded). [46] No proxy group company's CAPM ROE was removed due to the Low-End or High-End Tests.[47]

Q. WHAT WAS THE RESULT OF YOUR CAPM ANALYSIS?

A. The mean ROE for my CAPM analysis was 9.72 percent and the median ROE was 9.83 percent.[48]

Q. HAVE YOU INCLUDED A SIZE ADJUSTMENT IN YOUR CAPM ANALYSIS?

A. No. I did not include a size adjustment. Studies indicate the size adjustment is not appropriate for the CAPM. These studies show that the size effect disappears for years at a time and does not manifest itself in the prices investors pay for smaller and larger stocks.[49] Further, the studies that have shown the presence of a size effect may be examples of data mining: *e.g.*, start and stop periods for the data to be studied that show a size effect, but the finding cannot be replicated when the span of the study has different beginning and end dates.[50] The studies recommend not making adjustments for a size effect that may be transitory, at best, and not one that investors demand in the prices they pay for common equity.

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[46] Exhibit MFG-18, Schedule 5.
[47] Exhibit MFG-18, Schedule 4.
[48] Exhibit MFG-18, Schedule 4.
[49] Aswath Damodaran, *The Small Cap Premium: Where is the Beef?* 34.4 Business Valuation Review (2015).
[50] Clifford S. Ang, *The Absence of a Size Effect Relevant to the Cost of Equity*, 37.3 Business Valuation Review (2018).

Q. HAVE YOU INCLUDED A CREDIT-RISK ADJUSTMENT IN YOUR CAPM ANALYSIS?

A. No. By using credit rating as one of the proxy group selection criteria and making the credit rating of FirstEnergy the centerpiece of that screen, I accounted for different credit risks. No company selected for the proxy group is more than one notch above or below FirstEnergy's credit rating of BBB+. As noted previously, companies that close in credit rating have similar risk, so no credit-rating adjustment is necessary.

VIII. Recommended ROE

Q. PLEASE SUMMARIZE YOUR ROE RESULTS.

A. I performed three ROE analyses, constant-growth and multistage DCF, and CAPM. Those ROE values are:

ROE Mean and Median Results

	Constant-Growth DCF	Multistage DCF	CAPM
Mean	**9.24%**	**8.84%**	**9.72%**

Q. PLEASE COMMENT ON THE ROE RESULTS.

A. The DCF constant-growth ROE result was higher than the multistage counterpart ROE, while the CAPM result was the highest of the three values. Before determining the FirstEnergy ROE, I eliminated the multistage DCF value of 8.84 percent from consideration. I did so because that value is an outlier among authorized ROEs from 2021-2023 for U.S. electric utilities as reported by Regulatory Research Associates ("RRA"), a

unit of S&P Global IQ Pro.[51] Of 105 ROEs authorized by state commissions in that span, only three were less than 9.00 percent. The majority were between 9.00 percent and 10.00 percent. Further, as the following summary table of the authorized ROEs in the three years shows, the mean and median ROEs were in the range of 9.50 percent to 9.63 percent. The multistage DCF ROE value is out of step with the authorized ROEs in the table. Therefore, I excluded it from the calculation of the recommended ROE for FirstEnergy.

Summary of Fully Litigated ROE Awards for 2021-2023

Year	No. of Cases	Mean ROE	Median ROE	ROE Range
2021	31	9.63	9.50	8.57-10.60
2022	36	9.60	9.60	8.57-10.50
2023	38	9.58	9.58	9.35-10.10

Q. HOW DID YOU TREAT THE CONSTANT-GROWTH DCF AND CAPM ROE VALUES AS YOU CALCULATED THE FIRSTENERGY ROE?

A. I adjusted the ROE upward from the constant-growth DCF model result in response to the CAPM ROE result. This adjustment reflects the long-term level of ROEs.[52]

Q. WHAT WAS YOUR RECOMMENDED ROE FOR FIRSTENERGY?

A. My initial recommended FirstEnergy ROE was 9.48 percent. When compared with the authorized ROEs over the 2021-2023 period, this recommendation is reasonable.

[51] Exhibit MFG-19.
[52] Exhibit MFG-20, Schedule 1.

Q. HAS IT BEEN RECOGNIZED THAT THE COMMISSION CAN CONSIDER THE RELIABILITY AND SERVICE QUALITY RECORDS OF A PUBLIC UTILITY AS IT SETS AN ROE?

A. Yes. The following excerpt from Pennsylvania statute, 66 Pa. C.S. Section 523, establishes that the Commission shall consider the service performance of a public utility in setting its rates.

> **§ 523. Performance factor consideration.**
> **(a) Considerations.--**The commission shall consider, in addition to all other relevant evidence of record, the efficiency, effectiveness and adequacy of service of each utility when determining just and reasonable rates under this title. On the basis of the commission's consideration of such evidence, it shall give effect to this section by making such adjustments to specific components of the utility's claimed cost of service as it may determine to be proper and appropriate. Any adjustment made under this section shall be made on the basis of specific findings upon evidence of record, which findings shall be set forth explicitly, together with their underlying rationale, in the final order of the commission.

Q. PLEASE SUMMARIZE FIRSTENERGY'S RELIABILITY PERFORMANCE.

A. OCA witness Rao Konidena has evaluated FirstEnergy's reliability record. In Table 8[53] of his testimony he presents the Company's recent record in:

Customer Average Interruption Duration Index (CAIDI)

System Average Interruption Frequency Index (SAIFI)

[53] Rao Konidena Direct Testimony, Office of Consumer Advocate Statement No. 7, pages 22-23.

System Average Interruption Duration Index (SAIDI)

In three-year rolling averages covering 2018-2020, 2019-2021, and 2020-2022, FirstEnergy performed poorly in relation to these indicator metrics and to other Pennsylvania electric utilities.

It would seem to me that keeping the lights on is a key indicator of how efficient, effective and adequate the service of FirstEnergy is. Mr. Konidena's testimony shows that the Company's performance in this area does not meet the standard.[54]

Q. PLEASE SUMMARIZE FIRSTENERGY'S PERFORMANCES IN SERVICE QUALITY.

A. OCA witness Barbara Alexander identifies performance shortfalls in the service quality indicators Residential Customer Complaints and Residential Payment Arrangement Requests. Performance worsened in these categories from 2022 to 2023 by double-digit percentage increases.[55] Ms. Alexander also states that FirstEnergy has failed to conduct proper analysis of the root cause of its service quality failures.[56] She also states that the Company has not complied with a settlement condition regarding root cause analysis made in its 2016 base rate case.[57]

[54] Rao Konidena Direct Testimony, Office of Consumer Advocate Statement No. 7, page 25.
[55] Barbara R. Alexander, Direct Testimony, Office of Consumer Advocate Statement No. 6, page 27 [hereinafter "Alexander Direct"].
[56] Alexander Direct, pages 28-29.
[57] Alexander Direct, pages 28.

Q. DO YOU HAVE A RECOMMENDATION REGARDING ROE FOR FIRSTENERGY IN LIGHT OF THESE RELIABILITY AND SERVICE QUALITY SHORTCOMINGS?

A. Given that the Commission is authorized to consider the efficiency, effectiveness and adequacy of service of each utility when determining just and reasonable rates, and to make adjustments to specific components of the utility's claimed cost of service, I recommend that the Commission reduce FirstEnergy's ROE by 10 basis points in light of its poor reliability and service quality performances. Such a reduction would recognize the persistent failure by the Company to improve in these areas.

Q. WHAT IS THE EFFECT OF YOUR RECOMMENDATION ON YOUR RECOMMENDED ROE FOR FIRSTENERGY?

A. I recommend an ROE of 9.38 percent for FirstEnergy in response to the Company's reliability and service-quality performance problems.

IX. Recommended Capital Structure and Overall Rate of Return

Q. PLEASE STATE HOW AN OVERALL RATE OF RETURN IS CALCULATED.

A. The overall rate of return for a company is determined by the ratios of each element in its capital structure and the cost of those elements. The ratios are multiplied by the costs, with the products added to determine the rate of return. The overall rate of return is also known as the weighted average cost of capital ("WACC").

Q. WHAT DID YOU INCLUDE IN YOUR OVERALL RETURN ANALYSIS AS THE COSTS OF CAPITAL FOR FIRSTENERGY?

A. I accepted the Company's proposed cost of long-term debt of 4.56 percent.[58] I also included my recommended ROE of 9.38 percent.

Q. WHAT IS THE CAPITAL STRUCTURE YOU RECOMMEND FOR FIRSTENERGY?

A. I recommended a capital structure of 50.00 percent long-term debt, and 50.00 percent common equity.

Q. WHAT STEPS DID YOU TAKE TO DETERMINE YOUR RECOMMENDED CAPITAL STRUCTURE FOR FIRSTENERGY?

A. I began my capital-structure analysis calculating the average long-term debt and common equity ratios for the 15 electric utilities in the Comparison Group. These average ratios reflected the dollar amount of each capital-structure element by company for each of the eight quarters from the second quarter of 2022 to the first quarter of 2024. The source of the amounts upon which the Comparison Group company ratios were based is S&P Global Market Intelligence.[59]

Q. WHY DID YOU SELECT THESE EIGHT QUARTERS FOR YOUR CAPITAL-STRUCTURE ANALYSIS?

A. I used two years of data to smooth the effects of any quarter that was an outlier. Using two years of data also mitigated any seasonal effects on the capital structures. The first quarter

[58] Wang Direct, p. 6.
[59] Exhibit MFG-20, Schedule 2.

of 2023 was the most recent quarter for which data were available. Therefore, I began my analysis with data from the second quarter of 2022.

Q. PLEASE SUMMARIZE THE COMPARISON GROUP CAPITAL-STRUCTURE RATIOS IN YOUR ANALYSIS.

A. I calculated ratios for long-term debt and common equity for the Comparison Group electric utilities. The mean ratios for the group were 56.99 percent for long-term debt and 43.01 percent for common equity. Excluding electric utilities with long-term debt ratios greater than 60 percent, ratios unlikely to be approved by a commission, the long-term debt ratio is 54.79 percent and common-equity ratio is 45.21 percent.[60]

Q. PLEASE COMPARE THE CAPITAL-STRUCTURE RATIOS YOU CALCULATED WITH THE RATIOS THAT FIRSTENERGY REQUESTED FOR ITS CAPITAL STRUCTURE.

A. FirstEnergy requested a capital structure of 46.19 percent long-term debt and 53.81 percent common equity. Thus, the FirstEnergy common-equity request was nearly 11 percent greater than the average of the capital structure for all members of the Comparison Group. A higher common-equity ratio causes rates for public utility services to be higher.

Q. PLEASE DISCUSS YOUR RECOMMENDED CAPITAL-STRUCTURE RATIOS FOR FIRSTENERGY.

A. My recommended capital structure of 50.00 percent long-term debt and 50.00 percent common equity was between the capital structures of the Comparison Group and

[60] Exhibit MFG-20, Schedule 2.

FirstEnergy's requested capital structure. It was closer to the FirstEnergy requested ratios than it was to the Comparison Group average ratios.[61]

Q. WHERE DOES FIRSTENERGY'S REQUESTED CAPITAL STRUCTURE STAND IN RELATION TO THE CAPITAL STRUCTURES OF THE COMPARISON GROUP COMPANIES?

A. FirstEnergy's requested common-equity ratio is within the high end of the range of the common-equity ratios of the Comparison Group members, but barely (53.81 percent to 53.90 percent). Only one of the group's companies has a higher common-equity ratio than FirstEnergy's requested ratio. In recognition of this fact, I have recommended a hypothetical capital structure that fits better with the average ratios of the Comparison Group. It also reduces rates for FirstEnergy's customers compared with what they would pay under the FirstEnergy request.

Q. WHAT IS THE DOLLAR EFFECT ON RATEPAYERS DUE TO THE COMPANY'S PROPOSED CAPITAL STRUCTURE VERSUS MY PROPOSED CAPITAL STRUCTURE?

A. As calculated by OCA witness Dante Mugrace, if the Commission were to accept the Company's equity-rich capital structure, ratepayers would pay an additional $19.073 million as compared with the outcome under my proposed capital structure.

[61] Exhibit MFG-20, Schedule 2.

Q. WHY WERE THE AVERAGE CAPITAL STRUCTURES OF THE COMPARISON GROUP AN APPROPRIATE BASIS FOR YOUR CAPITAL STRUCTURE ANALYSIS?

A. My ROE analysis for FirstEnergy was carried out at the holding-company level. Therefore, to maintain consistency in my cost of capital analysis, I carried out my capital-structure analysis at the holding-company level rather than the operating-company level.

Q. ARE INVESTORS ABLE TO PURCHASE OWNERSHIP OF OPERATING LEVEL COMPANIES?

A. No. Common-equity shares are sold only for electric utility holding companies such as the members of the Comparison Group, not for operating-level utilities such as FirstEnergy. Therefore, as investors consider whether to acquire or retain common equity in an electric utility, they must consider the capital structure of the holding company. Thus, it is the holding company capital structure that influences the prices investors pay for common equity. These prices are, in turn, inputs into the discounted cash flow DCF model employed in ROE analysis.

Q. WHAT WAS THE OVERALL ROR THAT YOU RECOMMENDED FOR THE COMPANY?

A. When my estimated ROE of 9.48 percent was included with my recommended capital structure and the Company's cost of long-term debt of 4.56 percent, the ROR was 7.02 percent.[62] With an ROE of 9.38 percent that responds to FirstEnergy's reliability and service-quality failures, the recommended ROR becomes 6.97 percent.

[62] Exhibit MFG-20, Schedule 3.

X. Review of the Company's ROE Analysis

A. Summary of FirstEnergy ROE Analysis

Q. PLEASE COMPARE THE MEMBERSHIP OF YOUR COMPARISON GROUP WITH THE MEMBERSHIP OF FIRSTENERGY WITNESS MR. D'ASCENDIS'S PROXY GROUP.

A. As noted previously, there was considerable overlap between the Proxy Group and the Comparison Group. The groups shared 14 electric utilities, while the Comparison Group had one additional company. That electric utility, Eversource Energy, had DCF and CAPM ROEs near the top of ROE values for the Comparison Group. Therefore, its presence pulled up the average ROE values for the Comparison Group.

Q. WHAT ROE DID MR. D'ASCENDIS RECOMMEND FOR FIRSTENERGY?

A. Mr. D'Ascendis recommended an ROE of 11.30 percent for FirstEnergy. This value is well outside the range of recent ROEs authorized for U.S. electric utilities.

B. DCF Analysis

Q. DID FIRSTENERGY WITNESS MR. D'ASCENDIS APPLY THE DCF MODEL IN HIS ROE ANALYSIS?

A. Yes.

Q. DID MR. D'ASCENDIS APPLY A MINIMUM THRESHOLD SCREEN IN HIS DCF MODEL ANALYSIS?

A. Yes. Mr. D'Ascendis excluded a growth-rate value that was negative from the calculation of OGE Energy's ROE and excluded the IDACORP ROE value because it was more than two standard deviations away from the Proxy Group's mean ROE.

Q. DID MR. D'ASCENDIS ADJUST HIS DCF ROES FOR GROWTH?

A. Yes. Mr. D'Ascendis adjusted the dividends in his DCF model analysis for growth. He applied a half year's growth, whereas I applied a full year's growth. Thus, my adjustment was larger than his.

Q. WHAT WAS THE RESULT OF MR. D'ASCENDIS'S DCF ANALYSIS?

A. The result for Mr. D'Ascendis DCF ROE analysis was 9.89 percent. This value is at the high end of recent authorized ROEs in the U.S. However, it is Mr. D'Ascendis's CAPM and Risk Premium analyses that drive his ROE to an unreasonable level.

C. CAPM Analysis

Q. DID FIRSTENERGY WITNESS MR. D'ASCENDIS APPLY THE CAPM IN HIS ROE ANALYSIS?

A. Yes. Mr. D'Ascendis applied the CAPM and the Empirical CAPM (ECAPM), a variation of the CAPM in his ROE analysis.

Q. WHAT WERE THE RESULTS OF HIS CAPM AND ECAPM ANALYSES?

A. The results for his ROE analyses were 12.29 percent for the CAPM and 12.76 percent for the ECAPM.

Q. ARE THESE ROE VALUES REASONABLE?

A. No. The highest authorized ROE for an electric utility from 2021-2023 that did not involve a special adjustment mechanism was 10.60 percent.[63] Mr. D'Ascendis's CAPM and ECAPM values 1.69 percent and 2.16 percent greater, respectfully. Therefore, they do not represent reasonable values for FirstEnergy's ROE analysis and should be given no weight.

[63] D'Ascendis Direct, p. 36.

D. Risk-Premium Approach

Q. PLEASE BRIEFLY DISCUSS THE RISK-PREMIUM METHOD.

A. The risk-premium method is a historical approach to ROE analysis. The inputs to the method are authorized ROEs and U.S. Treasury yields from the past. Thus, the regression model developed by FirstEnergy Witness Mr. D'Ascendis finds only what has happened in certain circumstances, not what investors, signaling through their willingness to pay certain prices for common-equity shares, tell the market they expect will happen. The DCF model and the CAPM, as applied by both FirstEnergy Witness Mr. D'Ascendis and me, are forward-looking models and are preferred to the risk-premium method for that reason.

Q. PLEASE DISCUSS THE RISK-PREMIUM METHOD'S CALCULATIONS.

A. Prior authorized utility ROEs and the bond yields in effect at the time the authorized ROEs are ordered are inputs into the risk-premium method. The values for the variables are used in statistical analysis that develops a relationship between the risk-free bonds and the authorized ROEs. The differences between the two variables' values when aggregated in the statistical analysis produce a risk premium. The outcome of the analysis is an equation in which current bond values are used to produce a risk premium and a current ROE for a public utility in a base rate case.

Q. PLEASE DISCUSS HOW THE RISK-PREMIUM METHOD INTRODUCES CIRCULARITY INTO ROE ANALYSIS.

A. The ROE for a current case becomes an input in any following risk-premium approach ROE analyses, setting up a circularity loop of references from one rate case to the next. Eventually, the current authorized ROE becomes part of the set of historical authorized ROEs that serve as inputs into the risk-premium analysis that can be part of the ROE

analysis for the subject utility. The current views of investors regarding the subject company are not part of the risk-premium approach.

Q. DO INVESTORS TAKE PREVIOUS AUTHORIZED ROES INTO ACCOUNT AS THEY MAKE DECISIONS ABOUT BUYING AND SELLING ELECTRIC UTILITY COMMON-EQUITY SHARES?

A. Yes. Previous authorized ROEs for a subject utility and other companies are an element that investors consider in making decisions.

Q. HOW IS THIS CONSIDERATION OF PREVIOUS AUTHORIZED ROES BY INVESTORS DIFFERENT THAN USING PREVIOUS AUTORIZED ROES IN THE RISK-PREMIUM METHOD?

A. When investors include previous authorized ROEs, and other inputs into their decisions, they make judgments as to how much weight to give to each variable. Further, they also include their assessments of the future prospects of a subject utility and other companies in the same industry in their process. These expectations of the future are not part of the risk-premium method. As for the previous authorized ROEs, the relationship between them and bond yield values is rigid in risk-premium analysis.

Q. WHAT WAS THE RESULT OF MR. D'ASCENDIS'S RISK-PREMIUM ANALYSIS?

A. Mr. D'Ascendis obtained an ROE of 11.47 percent from his risk-premium analysis. This value is almost 1.00 percent greater than any ROE without a special adjustment mechanism authorized for a U.S. electric utility in the period 2021 to 2023. It is not a reasonable ROE.

E. Non-Price Regulated Companies Analysis

Q. PLEASE DESCRIBE MR. D'ASCENDIS'S COMPARABLE RISK ANALYSIS.

A. Mr. D'Ascendis asserted that the comparable risk standard for determining an ROE for a regulated utility such as FirstEnergy can be applied to non-price regulated companies if they are comparable in risk to the subject utility. He formed a proxy group for such companies using Value Line betas and standard errors as screening criteria. The betas and standard errors had to fall within two standard deviations of the values of the same parameters for the electric utility Proxy Group companies. He then applied the DCF model, risk premium model, and CAPM to the resulting proxy group of 45 companies. He argued that the ROEs derived were indicators of the level of return required by FirstEnergy because the risks were similar.[64]

Q. WHAT ROLE DOES VOLATILITY OF CASH FLOW PLAY IN THE CREDIT RATINGS THAT COMPANIES RECEIVE?

A. Price regulated companies such as the electric utilities used by Mr. D'Ascendis and me in our proxy groups tend to have cash flow that is less volatile than the cash flow of non-price regulated companies. S&P considers both level and volatility of profits as it assigns leverage ratings to companies. Firms with lower leverage ratings receive better credit ratings. Therefore, companies with less volatile cash flow receive better credit ratings.

Q. PLEASE ELABORATE.

A. S&P explains in an excerpt from its publication "Key Credit Factors for the Regulated Public Utilities Industry" that in assessing the adequacy of cash flow of a regulated utility

[64] D'Ascendis Direct, page 40, line 13-page 41, line 5.

that S&P analysts take into account volatility of cash flow, just as they do for other corporate issuers. One measure of volatility is the percentage of cash flow from regulated activities. Utilities, with a higher percentage of their cash flow coming from regulated activities, typically are regarded as less volatile.[65]

Q. PLEASE EXPLAIN HOW S&P COMBINES VOLATILITY RATINGS WITH CASH FLOW IN RATING COMPANIES.

A. S&P includes three tables of different volatility ratings in its credit rating discussion publication "General: Corporate Methodology." The tables show that for a company, regulated or not, to receive a certain leverage rating, it must demonstrate that it meets certain thresholds for core ratios, coverage ratios, and payback ratios. Companies rated low in volatility do not have to meet levels as stringent as companies rated medial or standard in volatility do to receive the same leverage rating.[66]

Q. PLEASE PROVIDE AN EXAMPLE.

A. The standard for a company with a low volatility rating to receive a "minimal leverage" rating for the funds from operations ("FFO")-to-debt ratio is 35 percent or better. In contrast, a company with a standard volatility rating has to have an FFO-to-debt ratio of 60 percent or better to receive the same "minimal leverage" rating.[67] Recall that lower volatility is associated with better credit ratings.

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[65] Exhibit MFG-21, Schedule 1, Pages 1-2.
[66] See paragraphs 76-77 of Exhibit MFG-21, Schedule 2, Pages 1-2.
[67] See the shaded areas in the FFO/Debt columns of Table 17 and Table 19 in Exhibit MFG-21, Schedule 2, pages 1-2.

Q. PLEASE DESCRIBE HOW HAVING TO MEET A LOWER RATIO TO RECEIVE THE SAME LEVERAGE RATING ADDRESSES RISK LEVELS OF PRICE REGULATED COMPANIES.

A. The FFO-to-debt ratio is one of seven indicators that S&P considers in assigning an overall leverage rating in its credit rating process. A "minimal leverage" rating is associated with higher credit ratings. Thus, a price regulated public utility with its tendency to receive a low volatility rating because a "vast majority"[68] of its cash flow comes from regulated activities will, all other things equal, receive a better leverage rating and better credit rating than will a non-price regulated company. A non-price regulated company by definition does not have a substantial percentage of cash flow coming from regulated activities.

Q. HOW CAN NON-PRICE REGULATED FIRMS RECEIVE A CREDIT RATING IDENTICAL TO THAT OF PRICE REGULATED UTILITIES?

A. Firms with less desirable volatility ratings, such as the volatility rating a typical non-price regulated firm is likely to receive, can make up for their greater cash flow uncertainty with higher FFO-to-debt ratios, to name one compensating factor. These firms can achieve higher ratios if they have greater cash flow than price regulated firms. Higher rates of return to equity can produce greater cash flow. Hence, higher return to equity enables the non-price regulated firms to receive credit ratings equal to the credit ratings of their price regulated counterparts.

[68] See paragraph 78 of Exhibit MFG-19, Schedule 1, page 2.

Q. DOES IT FOLLOW THAT A NON-PRICE REGULATED COMPANY WITH THE SAME CREDIT RATING AS A PRICE REGULATED UTILITY IS A GOOD PROXY FOR THE PRICE REGULATED UTILITY?

A. No. Non-price regulated companies with greater cash flow volatility tend to require greater return on equities than their price-regulated counterparts. As shown above, greater return on equity is a way non-price regulated firms can attain equality in S&P volatility ratings with price regulated utilities and take a step toward the same credit rating. Hence, the non-price regulated firms do not make good proxies for price regulated utilities because of their tendency toward higher rates of return.

Q. DO THESE OBSERVATIONS ABOUT CREDIT RATINGS AND RETURN ON EQUITY ALSO APPLY TO BETA VALUES?

A. Yes. Mr. D'Ascendis states that beta coefficients reflect the market's assessment of market/systematic risk. Further, he says that beta coefficients are derived from regression analyses of market prices. If a non-price regulated firm and a price regulated firm with the same beta value are alike in all operational aspects other than volatility of earnings, logic indicates that the non-price regulated firm must be equally appealing to investors due to a higher rate of return. Therefore, the ROEs for the companies in Mr. D'Ascendis's proxy group of 45 non-price regulated companies are biased upward relative to the ROEs for electric utilities in proxy groups. It is not surprising that they are higher.

XI. Summary

Q. WHAT ARE THE CRITERIA THE COMMISSION SHOULD CONSIDER IN SETTING FIRSTENERGY'S ROE AND ROR?

A. The Commission should only consider whether the ROE and ROR meet the *Bluefield* and *Hope* criteria for a fair return. Recounting, these criteria include returns that are commensurate with returns being earned on other investments with equivalent risks, a rate of return sufficient to enable the utility to attract capital, and returns sufficient to enable the regulated company to maintain its credit rating and financial integrity. The interpretation of the *Hope* and *Bluefield* criteria is that a company should be given the opportunity to earn an ROE and ROR sufficient to meet these standards.

Q. PLEASE STATE YOUR RECOMMENDED RETURN ON EQUITY AND OVERALL COST OF CAPITAL FOR FIRSTENERGY?

A. Relying on the DCF model and checking the result with the CAPM, I recommended an ROE of 9.48 percent and an ROR of 7.02 percent. If the Commission adopts my recommendation of a reduction of 10 basis points in FirstEnergy's ROE to reflect the Company's substandard performance in reliability and service quality, the ROE becomes 9.38 percent and the ROR 6.97 percent.

Q. DO YOU HAVE ANY ADDITIONAL COMMENTS?

A. Yes. My testimony is limited to the subject matters discussed. The Commission and the stakeholders should not infer my agreement with or support for a subject matter not covered in this testimony. Further, I reserve the right to supplement, amend, or otherwise file additional testimony based on additional evidence that comes to light after the filing of this testimony.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

PCMG and Associates LLC

MARLON GRIFFING, Ph.D.

Education

Ph.D., M.A., B.A., Economics, University of Nebraska-Lincoln

Position

Senior Consultant – PCMG and Associates	2015 – present
Senior Consultant – Snavely King Majoros and Associates	2013 – 2014
Utilities Financial Analyst – Minnesota Department of Commerce	2003 – 2013
Senior Consultant – QSI Consulting	2000 – 2002
Economic Analyst – Nebraska Public Service Commission	1998 – 2000

Professional Experience

Dr. Griffing holds bachelors, masters, and doctoral degrees in economics. Dr. Griffing is well versed in microeconomics, cost/benefit analysis and econometric analysis. He has 23 years' experience as an expert witness and consultant, primarily addressing the cost of capital and capital structure for electric, natural gas, and water utilities. He has also made appearances regarding rate design, the competitive effect of mergers, reliability and supply adequacy, and oil-pipeline companies in certificate of need cases. In addition, he managed testimony in two oil-pipeline certificate-of-need cases and arbitrated a telecommunications dispute for the Nebraska Public Service Commission. Dr. Griffing has appeared more than 60 times in cost of capital dockets and other matters before the regulatory agencies of Arkansas, California, Hawaii, Maine, Maryland, Minnesota, Nebraska, New Jersey, New Mexico, North Dakota, Oklahoma, Pennsylvania, South Dakota, Wyoming, and the Federal Energy Regulatory Commission.

Regulatory Projects and Appearances

1. In the Matter of the FirstEnergy Pennsylvania Base Rate Case (2024) (Appearance: cost of capital on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket No. R-2024-3047068

2. Application of Northern States Power Company for Authority to Increase Rates for Natural Gas Service in North Dakota (2024) – (Appearance: cost of capital on behalf of the North Dakota Public Service Commission Advocacy Staff)
   North Dakota Public Service Commission Docket No. PU-23-367

3. Application of Otter Tail Power Company for Authority to Increase Electric Rates in North Dakota (2024) – (Appearance: cost of capital on behalf of the North Dakota Public Service Commission Advocacy Staff)
   North Dakota Public Service Commission Docket No. PU-23-342

4. Application of Montana-Dakota Utilities Company for Authority to Increase Rates for Natural Gas Service in North Dakota (2024) – (Appearance: cost of capital on behalf of the North Dakota Public Service Commission Advocacy Staff)
   North Dakota Public Service Commission Docket No. PU-23-341

5. In the Matter of the Verified Petition of Jersey Central Power & Light Company for Approval of an Infrastructure Investment Program II ("EnergizeNJ") (2023) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
   New Jersey Board of Public Utilities Docket No. EO23110793

6. In the Matter of the Petition of Veolia Water New Jersey Inc. for Approval of an Increase in Rates for Water/Sewer Service and Other Tariff Changes (2023) – (Appearance: rate of return and cost of capital on behalf of the New Jersey Division of Rate Counsel)
   New Jersey Board of Public Utilities Docket No. WR23110790

7. In the Matter of the Petition of the Application of Black Hills Wyoming Gas, LLC d/b/a Black Hills Energy for Approval of a General Rate Increase of $19,262,41 to the Retail Gas Rates Effective for Usage on and After February 1, 2023 and Extension of the Wyoming Integrity Rider (2023) – (Appearance: cost of capital on behalf of the Wyoming Office of Consumer Advocate)
   Wyoming Public Service Commission Docket No. 30026-78-GR-23

8. In the Matter of the Petition of Middlesex Water Company for Approval of an Increase in Rates for Water Service and Other Tariff Services (2023) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
   New Jersey Board of Public Utilities Docket No. WR23050292

9. In the Matter of the Petition of Jersey Central Power and Light Company for Authority to Issue and Sell Up to $700,000,000 Aggregate Principal Amount of Senior Notes in One or More Series and to Make, Execute and Deliver One or More Supplemental Indentures in Connection Therewith (2023) – (Appearance: debt issuance petition on behalf of the New Jersey Division of Rate Counsel)
   New Jersey Board of Public Utilities Docket No. EF23060339

10. In the Matter of the Pittsburgh Water and Sewer Authority Base Rate Case (2023) (Appearance: Cash Flow and Bond Ratings on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket Nos. R-2023-3039920, R-2023-3039921, R-2023-303991

11. In the Matter of the Application of Hawaii Water Service Co. for Approval of a General Rate Increase for Its Pukalani Wastewater Division and Certain Tariff Changes (2022) (Appearance: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
   Hawaii Public Service Commission – Case No. 2022-0186

12. In the Matter of the Philadelphia Gas Works Base Rate Case (2023) (Appearance: Cash Flow and Bond Ratings on behalf of the Pennsylvania Office of Consumer Advocate)
   Pennsylvania Public Utility Commission – Docket No. R-2023-3037933

13. In the Matter of the Application of Lanai Water Company, Inc. for Review and Approval of Rate Increases; Revised Rate Schedules; and Changes to its Tariff (2022) (Appearance: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
   Hawaii Public Service Commission – Case No. 2022-0233

14. Application of Southern Maryland Electric Cooperative, Inc., for Authority to Revise Its Rates and Charges for Electric Service and Certain Rate Design Changes (2023) – (Appearance: cost of capital on behalf of the Maryland Office of the People's Counsel)
   Maryland Public Service Commission Case No. 9688

15. In the Matter of Petition of Atlantic City Electric Company for Approval of Powering the Future, an Infrastructure Investment Program and Related Cost Recovery Mechanism, Pursuant to *N.J.A.C.* 14:3-2A.1 et. seq. (2022) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
   New Jersey Board of Public Utilities Docket No. ER22100666

16. Application of San Diego Gas & Electric Company (U902M) for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2023 and to Reset the Annual Cost of Capital Mechanism (2022) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the United Consumer Action Network)
   California Public Utilities Commission Proceeding A.22-04-008

17. In the Matter of the Petition of Rockland Electric Company for Approval of an Infrastructure Investment Program, and Related Cost Recovery Mechanism (2022) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. ER22030198

18. Application of the Empire District Electric Company, a Kansas Corporation, for an Adjustment in Its Rates and Charges for Electric Service in the State of Oklahoma (2021) – (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 202100163

19. In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma (2022) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 202100164

20. In the Matter of the Application of Northern States Power Co. for Authority to Increase Rates for Natural Gas Service in North Dakota (2022) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the North Dakota Public Service Commission Advocacy Staff)
    ND Public Service Commission Case No. PU-21-381

21. In the Matter of the Petition of Public Service Electric and Gas Company for Approval of an Infrastructure Advancement Program Pursuant to N.J.A.C. 14:3-2A.1 *et. seq.* (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket Nos. EO21111211 and GO21111212

22. In Re: Hawaii-American Water Company – Approval of Rate Increases and Revised Rate Schedules for Wastewater Services (2021) (Appearances: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
    Hawaii Public Service Commission – Case No. 2021-0063

23. In Re: Kalaeloa Water Company – Approval of a General Rate Increase / Adjustments for Water and Wastewater Services (2021) (Appearance: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
    Hawaii Public Service Commission – Case No. 2021-0005

24. In the Matter of Application of San Diego Gas & Electric Company for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2022 and to Reset the Annual Cost of Capital Mechanism (2021) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Utility Consumers' Action Network)
    CA Public Utilities Commission Application 21-08-014

25. In the Matter of the Petition of Gordon's Corner Water Company for an Increase in Rates and Charges for Water Service (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR21070979

26. Maine Water Company, Application for Approval of Rate Increase and Rate Smoothing Mechanism for the Biddeford and Saco Division (2021) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)
    Maine Public Utilities Commission Docket No. 2021-00289

27. In the Matter of the Petition of New Jersey Natural Gas Company for Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18 (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. ER21030679

28. In the Matter of the Application of Oklahoma Natural Gas Company, a Division of ONE Gas, Inc., for a Review and Change or Modification in Its Rates, Charges, Tariffs and Terms and Conditions of Service (2021) – (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 202100063

29. Application of Public Service Company of Oklahoma, An Oklahoma Corporation, for An Adjustment in Its Rates and Charges and the Electric Service Rules, Regulations and Conditions for Service in the State of Oklahoma and to Approve a Performance-Based Rate Proposal (2021) – (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 202100055

30. Versant Power f/k/a Emera Maine, Proposed Increase in Distribution Rates (2021) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)
    Maine Public Utilities Commission Docket No. 2020-00316

31. In the Matter of the Verified Petition of Atlantic City Electric Company for Approval of Amendments to its Tariff to Provide for an Increase in Rates and Charges for Electric Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, and for Other Appropriate Relief (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. ER201020746

32. In the Matter of the Petition of Elizabethtown Gas Company to Issue Long-Term Debt and Security Therefor and for Authority to Issue and Sell Short-Term Indebtedness, all through December 31, 2023 (2021) – (Appearance: debt issuance petition on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. GF20120749

33. Northern States Power Minnesota 2021 Electric Rate Increase Application (2021) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the North Dakota Public Service Commission Staff)
    ND Public Service Commission Case No. PU-20-441

34. Pike County Light & Power Company 2020 General Base Rate Increase (2020) – (Appearance: Cost of Capital on behalf of the Pennsylvania Office of Consumer Advocate)
    Pennsylvania Public Utility Commission – Docket Nos. R-2020-3022134 (Gas) and R-2020-3022135 (Electric)

35. Water Rate Case Consultant for the Maine Public Advocate (2020) – (Appearance: cost of capital on behalf of the Maine Office of Public Advocate in selected cases)
    Maine Public Utilities Commission Docket No. 2021-00053

36. In the Matter of the Petition of South Jersey Gas Company for Approval of Increased Base Tariff Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions (2020) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. GR20030243

37. In the Matter of the Verified Petition of Jersey Central Power & Light Company for Review and Approval of Increases in, and Other Adjustments to, its Rates and Charges for Electric Service, and for Approval of Other Proposed Tariff Revisions in Connection Therewith (2020) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. ER20020146

38. In the Matter of the Federal Power Act Rule 206 Complaint Against Public Service Electric and Gas Company (2020) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)
    Federal Energy Regulatory Commission Docket No. ER09-1257-000

39. In the Matter of the Petition of New Jersey-American Water Company for Approval of Increase Base Tariff Rates and Charges for Water and Wastewater Service and Other Tariff Changes (2019) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR19121516

40. In the Matter of the Petition of Jersey Central Power & Light Company for Approval of Its Transmission Rates and Transmission Enhancement Charge for Interconnection with PJM Interconnection, L.L.C. (2019) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)
    Federal Energy Regulatory Commission Docket No. ER20-227-000

41. Request for Approval of Rate Change, Northern Utilities, Inc. (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)
    Maine Public Utilities Commission Docket No. 2019-00092

42. Application of San Diego Gas & Electric Company (U902M) for Authority to: (i) Adjust its Authorized Return on Common Equity, (ii) Adjust its Authorized Embedded Costs of Debt and Preferred Stock, (iii) Adjust its Authorized Capital Structure; (iv) Modify its Adopted Cost of Capital Mechanism Structure, and (v) Revise its Electric Distribution and Gas Rates Accordingly, and for Related Substantive and Procedural Relief (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Utility Consumers' Action Network)
    California Public Utilities Commission Proceeding A.19-04-017

43. In the Matter of the Application of the Empire District Electric Company, a Kansas Corporation, for an Adjustment in its Rates and Charges for Electric Service in the State of Oklahoma (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 201800133

44. In the Matter of the Petition of New Jersey Natural Gas Company for Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service, Pursuant to **N.J.S.A. 48:2-21** and **48:2-21.1** and for Changes to Depreciation Rates for Gas Property Pursuant to **N.J.S.A. 48:2-18** (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. GR19030420

45. In the Matter of the Petition of Pivotal Utility Holdings d/b/a Elizabethtown Gas Company to Implement an Infrastructure Investment Program (IIP) and Associated Recovery Mechanism (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. GR18011197

46. Commission-Initiated Investigation into Rates and Revenue Requirements Pertaining to Emera Maine, Inc. (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)
    Maine Public Utilities Commission Docket No. 2019-00019

47. In the Matter of Petition of Aqua New Jersey, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2018) - (Appearance: return on equity, cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR18121351

48. Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in the State of Oklahoma (2018) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 201800140

49. Commission-Initiated Investigation into Rates and Revenue Requirements Pertaining to Central Maine Power Company (2018) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)
    Maine Public Utilities Commission Docket No. 2018-00194

50. Application of Public Service Company of Oklahoma, An Oklahoma Corporation, for An Adjustment in Its Rates and Charges and the Electric Service Rules, Regulations and Conditions for Service in the State of Oklahoma and to Approve a Performance-Based Rate Proposal (2018) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 201800097

51. In Re: The Matter of the Application of Maryland American Water Co. for Authority to Increase Rates and Charges (2018) – (Appearance: Cost of capital on behalf of the Maryland Office of the People's Counsel)
    Maryland Public Service Commission – Case No. 9487

52. In the Matter of Petition of Atlantic City Electric Co. for Approval of Amendments to Its Tariff to Provide for an Increase in Rates and Charges for Electric Service and for Other Appropriate Relief (2018) - (Appearance: return on equity, cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. ER18060638

53. In the Matter of Petition of SUEZ Water New Jersey, Inc. for Approval of an Increase in Rates for Water/Sewer Service and Other Tariff Changes (2018) - (Appearance: return on equity, cost of capital on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR18050593

54. In Re: The Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2018) – (Appearance: Cost of capital on behalf of the Maryland Office of the People's Counsel)
    Maryland Public Service Commission – Case No. 9480

55. In Re: The Matter of the Columbia Gas of Pennsylvania for a General Rate Increase in Distribution Gas Service (2018) – (Appearance: Cost of Capital on behalf of the Pennsylvania Office of Consumer Advocate)
    Pennsylvania Public Utility Commission – Docket No. R-2018-2647577

56. In the Matter of the Application of Black Hills Energy Arkansas, Inc. for Approval of a General Tariff Change in Rates and Tariffs (2018) – (Appearance: return on equity, cost of capital on behalf of the Office of the Arkansas Attorney General)
    Arkansas Public Service Commission Docket 17-071-U

57. In the Matter of the Petition of Atlantic City Electric Company for Approval of an Infrastructure Investment Program and Related Cost Recovery Mechanism (2018) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. EO18020196

58. In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma (2018) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 201700496

59. Application of Fayson Lake Water Company for the Approval of an Increase in Rates and Other Appropriate Relief (2017) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR17101041

60. Petition of Middlesex Water Company for Approval of an Increase in its Rates for Water Service and Other Tariff Changes, and an Order Authorizing Special Accounting Treatment of Income Tax Refund Proceeds and Future Income Tax Deductions (2017) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR17101049

61. In the Matter of the Petition of New Jersey-American Water Company, Inc. for Approval of an Increased Tariff Rates and Charges for Water and Sewer Service, Change in Depreciation Rates, and Other Tariff Modifications (2017) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR17090985

62. Montana-Dakota Utilities Co., Application to Increase Natural Gas Rates (2017) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the North Dakota Public Service Commission Staff)
    ND Public Service Commission Case No. PU-17-295

63. In the Matter of the Petition of Andover Utility Company, Inc. for Approval of an Increase in Rates for Wastewater Service (2017) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR17070726

64. Application of Public Service Company of Oklahoma, An Oklahoma Corporation, for An Adjustment in Its Rates and Charges and the Electric Service Rules, Regulations and Conditions for Service in the State of Oklahoma (2017) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
    Oklahoma Commerce Commission Cause No. PUD 201700151

65. In the Matter of the Petition of SUEZ Water Arlington Hills, Inc. for Approval of an Increase in Rates for Wastewater Service and Other Tariffs (2016) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
    New Jersey Board of Public Utilities Docket No. WR16060510

66. In the Matter of Request by Emera Maine for Approval of a Rate Change (2016) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)
    Maine Public Utilities Commission Docket No. 15-00360

67. ENMAX Energy Corporation (EEC) Regulated Rate Option Non-Energy Tariff Application (2015-2016) - (Analysis: cost of capital, risk element identification on behalf of the Alberta Utilities Consumer Advocate)
    Alberta Utilities Commission Proceeding 20480

68. Pennsylvania Public Utilities Commission vs. West Penn Power Co., Pennsylvania Electric Co., Pennsylvania Power Co., and Metropolitan Edison Co. (2014-2015) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return behalf of the Office of the Pennsylvania Consumer Advocate)
    PA Docket Nos. R-2014-2428742-R-2014-2428745

69. In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota (2010-2012) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G007,011/GR-10-977

70. In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Utility Service in Minnesota (2010-2011) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. E017/GR-10-239

71. In the Matter of the Petition of Northern States Power Company, a Minnesota Corporation, for Authority to Increase Rates for Natural Gas Service in Minnesota (2009-2010) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G002/GR-09-1153

72. In the Matter of an Application by CenterPoint Energy Resources Corp., D/B/A CenterPoint Minnesota Gas to Increase Natural Gas Rates in Minnesota (2008-2009) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G008/GR-08-1075

73. In the Matter of Minnesota Energy Resources Corporation's Application for Authority to Increase Natural Gas Rates in Minnesota (2008-2009) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G007,011/GR-08-835

74. In the Matter of the Petition of Northern States Power Company, a Minnesota Corporation and Wholly Owned Subsidiary of Xcel Energy Inc., for Authority to Increase Rates for Natural Gas Service in Minnesota (2006-2007) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G002/GR-06-1429

75. In the Matter of the Application of CenterPoint Energy Resources Corp., D/B/A CenterPoint Energy Minnesota Gas, for Authority to Increase Natural Gas Rates in Minnesota (2005-2006) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G008/GR-05-1380

76. In the Matter of a Petition by Interstate Power and Light Company for Authority to Increase Electric Rates in Minnesota (2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. E001/GR-05-748

77. In the Matter of the Petition of Northern States Power Company dba Xcel Energy Request for General Rate Increase (2004-2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G002/GR-04-1511

78. In the Matter of the Petition of Great Plains Natural Gas Company's Request for General Rate Increase (2004-2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    MN Docket No. G004/GR-04-1487

79. In the Matter of the Petition of CenterPoint Energy Minnegasco, A Division of CenterPoint Resources Corp. for Authority to Increase Natural Gas Rates in Minnesota (2004-2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
    Docket No. G008/GR-04-901

Advance Prudence/Certificates of Need

80. In the Matter of the Application Northern States Power Company for an Advance Determination of Prudence for the Big Stone South – Alexandria – Big Oaks 345 kV Transmission Line Project (2023) – (Appearance: Need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
    North Dakota Public Service Commission Docket No. PU-23-329

81. In the Matter of the Application Northern States Power Company for an Advance Determination of Prudence for the Proposed 345 kV Brookings County – Lyon County and Helena – Hampton Second-Circuit Project (2023) – (Appearance: Need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
    North Dakota Public Service Commission Docket No. PU-23-295

82. In the Matter of the Application Northern States Power Company for an Advance Determination of Prudence for the Lyon County to Sherburne County 345 kV Transmission Line (2023) – (Appearance: Need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
    North Dakota Public Service Commission Docket No. PU-23-142

83. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 17-GREC-06

84. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 17-GREC-05

85. In re: Northern Illinois Gas Company d/b/a Nicor Gas Company Proposed General Increase in Gas Rates (2017) – (Appearance: prudence/used and useful and plant accounting on behalf of the Citizens Utility Board of Illinois)
    IL Commerce Commission Docket No. 17-0124

86. In re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Assistance to Counsel: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01

87. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Assistance to Counsel: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05

88. In re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Analysis and Advice to Counsel: forecasting and cost/benefit on behalf of the New Hampshire Office of Consumer Advocate)
    NH Public Utilities Commission Docket No. DE 16-241

89. In the Matter of the Application of Enbridge Energy, Limited Partnership and Enbridge Pipelines (Southern Lights) LLC for a Certificate of Need for the Alberta Clipper and Southern Lights Diluent Pipeline Projects (2007-2008) - (Case Manager: economic impact, public interest and impact on society, advice to counsel, assist on brief on behalf of the Minnesota Department of Commerce)
    MN Docket No. PL-9/CN-07-465

90. In the Matter of the Application of Enbridge Energy (Southern Lights) LLC for a Certificate of Need for a Crude Oil Pipeline for the Southern Lights Project (2007-2008) - (Case Manager: economic impact, public interest and impact on society, advice to counsel, assist on brief on behalf of the Minnesota Department of Commerce)
    MN Docket No. PL-9/CN-07-464

91. In the Matter of the Application of Minnesota Pipeline Company for a Certificate of Need for a Crude Oil Pipeline (2006-2007) - (Appearance: economic impact on behalf of the Minnesota Department of Commerce)
    MN Docket No. PL-5/CN-06-02

92. In the Matter of the Petition of Northern States Power Company dba Xcel Energy dba Xcel Energy Certificate Need to Establish an Independent Spent Fuel Storage Installation at the Monticello Generating Plant (2005-2006) - (Appearance: license renewal, economic impact on behalf of the Minnesota Department of Commerce)
    MN Docket No. E002/CN-05-123

93. In the Matter of a Certificate of Need Application for Great River Energy's Cambridge Station (2005) - (Appearance: economic impact on behalf of the Minnesota Department of Commerce)
    MN Docket No. ET2/CN-05-347

Mergers

94. In. re: The Merger of the Southern Company and AGL Resources Inc. - Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Utility Holdings, Inc., d/b/a Elkton Gas (2015-2016) - (Analysis: cost of capital, credit ratings, affiliate relationships on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9404

95. In the Matter of a Request of Great Plains Natural Gas Co. for the Approval of the Acquisition by MDU Resources Group, Inc., of Intermountain Gas Company (2008) (Appearance: rule variance, sharing savings, regulatory authority, cost of capital on behalf of the Minnesota Department of Commerce)
    MN Docket No. G004/PA-08-813

96. In the Matter of a Request for the Approval of the Acquisition by MDU Resources Group, Inc., and Its Division, Great Plains Natural Gas Co., of Cascade Natural Gas Corporation (2006-2007) (Appearance: sharing savings, regulatory authority, cost of capital on behalf of the Minnesota Department of Commerce)
    MN Docket No. G004/PA-06-1585

Regulatory Projects and Appearances

97. Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid: Storm Cost Recovery for Fourteen 2020 Qualifying Events (2022) (Appearance: prudence/used and useful on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    Massachusetts Department of Public Utilities – Docket No. D.P.U. 22-43

98. In Re: Township of East Brunswick – Sewer Rate Study – (2017) - (Evaluation of the existing sewer rate structure and examining and quantify costs for future expansion).

99. In re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (Appearance: productivity adjustments/performance based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
    Alberta Utilities Commission Proceeding 20414

100. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015-2016) - (Analysis: gas-supply model review, forecasting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA D.P.U. 15-130

101. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Gaz Metro LNG, L.P.; and National Grid LNG (2015-2016) - (Analysis: gas-supply model review, forecasting, large customer loss and retention on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA D.P.U. 15-129

Rate Design

102. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9443

103. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Analysis and Assistance to Counsel: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9424

104. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Analysis and Assistance to Counsel: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9418

105. In the Matter of Otter Tail Corporation dba Otter Tail Power Company's Application for Authority to Increase Rates for Electric Service in Minnesota (2007-2008) - (Appearance: rate design, revenue requirement on behalf of the Minnesota Department of Commerce)
    MN Docket No. E017/GR-07-1178

Capital Structure

106. In the Matter of the Petition of Greater Minnesota Gas Inc. for Approval of 2011 Capital Structure Petition and Permission to Issue Securities (2011) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
    MN Docket No. G022/S-11-535

107. In the Matter of the Petition of Otter Tail Power Company for Approval of 2011 Capital Structure and Permission to Issue Securities (2011) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
    MN Docket No. G007,011/S-11-392

108. The Petition of Otter Tail Power Company for Approval of 2010 Capital Structure and Permission to Issue Securities (2010) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
    MN Docket No. E017/S-10-292

109. In the Matter of the Greater Minnesota Gas Inc.'s Capital Structure Petition and Compliance with Financial Integrity Order (2010) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G022/S-10-281

110. Interstate Power and Light Company's petition for approval of its proposed capital structure (2009) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/S-09-607

111. A petition of Interstate Power and Light Company for approval of its proposed capital structure (2008) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/S-08-540

112. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation (2008) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/SA-08-329

113. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation (2007) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
Docket No. G007,011/S-07-352

114. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation (2006-2007) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/S-06-1013

115. Northern States Power Company's request for approval of its 2006 Capital Structure Prior to Issuing Securities (2005) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G002/S-05-1583

116. A petition of Interstate Power and Light Company for approval of its proposed capital structure for calendar year 2005, ending March 31, 2006 (2005) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/S-05-151

Affiliated Interest

117. Petition of Greater Minnesota Gas, Inc. for Approval of an Affiliated Interest Agreement (2010-2011) - (Appearance: analysis of affiliated interests of closely held company, some owners also suppliers on behalf of the Minnesota Department of Commerce)
MN Docket No. G022/AI-10-1160

118. In the Matter of the Petition of Minnesota Energy Resources Corporation for Approval of Affiliated Interest Agreement (2010-2013) - (Appearance: analysis of affiliated interests agreement post-merger on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/AI-10-783

119. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation and Request for Approval of Affiliated Interest Agreement (2009-2010) - (Appearance: capital structure, affiliated interest lending on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/SAI-09-1108

120. Petition for Approval of a Lending Agreement Between Interstate Power and Light Company and Alliant Energy Corporation Pursuant to Section 216B.48 of the Minnesota Statutes and Minnesota Rule 7825.2200 (2008-2009) - (Appearance: intercompany lending on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/AI-08-1323

121. A Petition for Approval of Affiliated Services Agreement Between Interstate Power and Light Company and RMT, Inc. Pursuant to Section 216.48 of the Minnesota Statutes and Minnesota Rule 7825.2200 (2007-2008) - (Appearance: affiliated interests, engineering services on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/AI-07-941

Depreciation

122. Otter Tail Power Company's Request for Approval of its Five-Year Depreciation Study (2008-2009) - (Appearance: depreciation analysis on behalf of the Minnesota Department of Commerce)
MN Docket No. E017/D-08-1042

123. In the Matter of the Petition of Great Plains Natural Gas Company's Request for Approval of its Five-Year Depreciation Study for 2007 (2007-2008) - (Appearance: depreciation analysis on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/D-07-740

124. In the Matter of the Petition of Great Plains Natural Gas Company's Request for Approval of its Proposed Remaining Lives, Salvage Rates, and Resulting Depreciation Rates (2006-2007) - (Appearance: depreciation analysis on behalf of the Minnesota Department of Commerce)
    MN Docket No. G004/D-06-700

Telecommunications

125. In the Matter of the Petition of Great Plains Communications, Inc. for Arbitration to Resolve Issues Relating to an Interconnection Agreement with WWC License L.L.C. (2003) – (Arbitrator: arbitrated interconnection agreement disputes on behalf of the Nebraska Public Service Commission)
    NE Application No. C-2872

126. In the Matter of the Analysis of Qwest Corporation's Compliance with Section 271(c) of the Telecommunications Act of 1999 (1999-2002) – (Appearances: evaluation of Qwest Corporation's opening its operational support systems (OSS) to competitive local exchange carriers on behalf of the Nebraska Public Service Commission, New Mexico Public Regulation Commission Advocacy Staff, and South Dakota Public Utilities Commission Staff)
    NE Application No. C-1830, NM Case No. 3269, SD Docket No. TC01-165

S&P Capital IQ PRO

FirstEnergy Corp. | Credit Ratings

NYSE: FE (MI KEY: 4056944; SPCIQ KEY: 293515)

Agency All

BBB

S&P Global Ratings

Issuer Credit Rating (Foreign Currency LT)
4/23/2024

Upgrade | CreditWatch/Outlook: Positive
4/23/2024

Baa3

Moody's

Long Term Rating (LT Issuer Rating Domestic)
3/28/2024

Current Ratings

S&P GLOBAL RATINGS (S&P Entity Name:FirstEnergy Corp.)

RATING TYPE	RATING	RATING DATE	LAST REVIEW DATE	PREVIOUS RATING	ACTION	CREDITWATCH/ OUTLOOK	CREDITWATCH/ OUTLOOK DATE
Issuer Credit Rating							
Foreign Currency LT	BBB	4/23/2024	4/23/2024	BBB-	Upgrade | CreditWatch/Outlook	Positive	4/23/2024
Local Currency LT	BBB	4/23/2024	4/23/2024	BBB-	Upgrade | CreditWatch/Outlook	Positive	4/23/2024

MOODY'S

RATING TYPE	RATING	DATE	ACTION	OUTLOOK
Ratings Summary				
Long Term Rating (LT Issuer Rating Domestic)	Baa3	3/28/2024	New	
Short Term Rating (Speculative Grade Liquidity Rating)	WR	3/28/2024	Withdrawn	
Outlook		3/28/2024		Stable
Ratings Detail				
Senior Unsecured (Domestic)	Baa3	3/28/2024	Upgrade	
Senior Unsecured Bank Credit Facility (Domestic)	Baa3	3/28/2024	Upgrade	
LT Issuer Rating (Domestic)	Baa3	3/28/2024	New	
Senior Unsec. Shelf (Domestic)	(P)Baa3	3/28/2024	Upgrade	
LT Corporate Family Ratings	WR	3/28/2024	Withdrawn	
Speculative Grade Liquidity Rating	WR	3/28/2024	Withdrawn	
Probability of Default	WR	3/28/2024	Withdrawn	
Pref. Shelf (Domestic)	WR	5/16/2015	Withdrawn	

Ratings History

S&P GLOBAL RATINGS (S&P Entity Name:FirstEnergy Corp.)

RATING TYPE	RATING	RATING DATE	ACTION	CREDITWATCH/ OUTLOOK	CREDITWATCH/ OUTLOOK DATE
Foreign Currency LT					
Issuer Credit Rating	BBB	4/23/2024	Upgrade | CreditWatch/Outlook	Positive	4/23/2024
Issuer Credit Rating	BBB-	11/8/2021	CreditWatch/Outlook	Positive	2/10/2023
Issuer Credit Rating	BBB-	11/8/2021	Upgrade | CreditWatch/Outlook	Stable	11/8/2021
Issuer Credit Rating	BB	11/24/2020	CreditWatch/Outlook	Watch Pos	7/23/2021
Issuer Credit Rating	BB	11/24/2020	Downgrade | CreditWatch/Outlook	Watch Neg	11/24/2020
Issuer Credit Rating	BB+	10/30/2020	Downgrade | CreditWatch/Outlook	Watch Neg	10/30/2020
Issuer Credit Rating	BBB	8/27/2018	CreditWatch/Outlook	Watch Neg	7/23/2020

S&P Capital IQ PRO

FirstEnergy Pennsylvania Electric Co. | Credit Ratings

(MI KEY: 114276785; SPCIQ KEY: 1860156209)

Agency All

BBB+

S&P Global Ratings

Issuer Credit Rating (Foreign Currency LT)
4/23/2024

Upgrade | CreditWatch/Outlook: Positive
4/23/2024

Current Ratings

S&P GLOBAL RATINGS (S&P Entity Name:FirstEnergy Pennsylvania Electric Co.)

RATING TYPE	RATING	RATING DATE	LAST REVIEW DATE	PREVIOUS RATING	ACTION	CREDITWATCH/ OUTLOOK	CREDITWATCH/ OUTLOOK DATE
Issuer Credit Rating							
Foreign Currency LT	BBB+	4/23/2024	4/23/2024	BBB	Upgrade | CreditWatch/Outlook	Positive	4/23/2024
Local Currency LT	BBB+	4/23/2024	4/23/2024	BBB	Upgrade | CreditWatch/Outlook	Positive	4/23/2024

Ratings History

S&P GLOBAL RATINGS (S&P Entity Name:FirstEnergy Pennsylvania Electric Co.)

RATING TYPE	RATING	RATING DATE	ACTION	CREDITWATCH/ OUTLOOK	CREDITWATCH/ OUTLOOK DATE
Foreign Currency LT					
Issuer Credit Rating	BBB+	4/23/2024	Upgrade | CreditWatch/Outlook	Positive	4/23/2024
Issuer Credit Rating	BBB	1/3/2024	New Rating | CreditWatch/Outlook	Positive	1/3/2024
Local Currency LT					
Issuer Credit Rating	BBB+	4/23/2024	Upgrade | CreditWatch/Outlook	Positive	4/23/2024
Issuer Credit Rating	BBB	1/3/2024	New Rating | CreditWatch/Outlook	Positive	1/3/2024

Subsidiaries

SUBSIDIARY	AGENCY	DEBT TYPE (RATING TYPE)	RATING	RATING DATE	LAST REVIEW DATE	PREVIOUS RATING	CREDITWATCH / OUTLOOK	CREDITWATCH / OUTLOOK DATE
Met Ed Capital II L.P.	Moody's	Long Term Rating (BACKED Pref. Shelf Domestic)	WR	12/21/2007				
Met-Ed Capital L.P.	S&P Global Ratings	Issuer Credit Rating (Foreign Currency LT)	NR	12/10/2019	12/10/2019	BBB	NR	12/10/2019
	Moody's	Long Term Rating (BACKED Pref. Stock Domestic)	WR	12/29/1999				
Metropolitan Edison Co.	S&P Global Ratings	Issuer Credit Rating (Foreign Currency LT)	NR	1/3/2024	1/3/2024	BBB	NR	1/3/2024
	Moody's	Long Term Rating (LT Issuer Rating)	WR	1/2/2024				
Penelec Capital II LP	Moody's	Long Term Rating (BACKED Pref. Shelf Domestic)	WR	12/21/2007				
Penelec Capital L.P.	Moody's	Long Term Rating (BACKED Pref. Stock Domestic)	WR	7/16/1999				
Penelec Capital Trust	S&P Global Ratings	Issuer Credit Rating (Foreign Currency LT)	NR	12/10/2019	12/10/2019	BBB	NR	12/10/2019
	Moody's	Long Term Rating (BACKED Pref. Stock Domestic)	WR	9/1/2004				
Pennsylvania Electric Co.	S&P Global Ratings	Issuer Credit Rating (Foreign Currency LT)	NR	1/3/2024	1/3/2024	BBB	NR	1/3/2024
	Moody's	Long Term Rating (LT Issuer Rating)	WR	1/2/2024				
Pennsylvania Power Co.	S&P Global Ratings	Issuer Credit Rating (Foreign Currency LT)	NR	1/3/2024	1/3/2024	BBB	NR	1/3/2024

S&P Capital IQ PRO

FirstEnergy Pennsylvania Electric Co. | Credit Ratings

SUBSIDIARY	AGENCY	DEBT TYPE (RATING TYPE)	RATING	RATING DATE	LAST REVIEW DATE	PREVIOUS RATING	CREDITWATCH / OUTLOOK	CREDITWATCH / OUTLOOK DATE
	Moody's	Long Term Rating (LT Issuer Rating)	WR	1/2/2024				
West Penn Power Co.	S&P Global Ratings	Issuer Credit Rating (Foreign Currency LT)	NR	1/3/2024	1/3/2024	BBB	NR	1/3/2024
	Moody's	Long Term Rating (LT Issuer Rating)	WR	1/2/2024				

S&P Credit Ratings and Research provided by S&P Global Ratings

'Last Review Date' indicates the date on which an Issue/Issuer Credit Rating was last formally reviewed within a twelve-month period or when a Credit Rating Action was last published. For certain dependent instruments, the 'Last Review Date' will only be updated in the event of a Credit Rating change of the linked organization.

Latest S&P Ratings available unless you are a subscriber of S&P Ratings history.

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ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
Comparison Group Screening **Exhibit MFG-4**
Value Line Electric Utilities Group
Downloaded from Value Line on June 12, 2024

Company	Ticker	Exchange where Publicly Traded
ALLETE	ALE	NYS
Alliant Energy	LNT	NDQ
Ameren Corp.	AEE	NYS
American Elec. Power	AEP	NYS
AVANGRID, Inc.	AGR	NYS
Avista Corp.	AVA	NYS
Black Hills	BKH	NYS
CenterPoint Energy	CNP	NYS
CMS Energy Corp.	CMS	NYS
Consol. Edison	ED	NYS
Dominion Energy	D	NYS
DTE Energy	DTE	NYS
Duke Energy	DUK	NYS
Edison Int'l	EIX	NYS
Emera Incorporated	EMA	TSX
Entergy Corp.	ETR	NYS
Evergy, Inc.	EVRG	NYS
Eversource Energy	ES	NYS
Exelon Corp.	EXC	NDQ
FirstEnergy Corp.	FE	NYS
Fortis Inc.	FTS.TO	TSE
Hawaiian Elec.	HE	NYS
IDACORP, Inc.	IDA	NYS
MGE Energy	MGEE	NDQ
NextEra Energy	NEE	NYS
NorthWestern Corp.	NWE	NYS
OGE Energy	OGE	NYS
Otter Tail Corp.	OTTR	NDQ
PG&E Corp.	PCG	NYS
Pinnacle West Capital	PNW	NYS
PNM Resources	PNM	NYS
Portland General	POR	NYS
PPL Corp.	PPL	NYS
Public Serv. Enterprise	PEG	NYS
Sempra Energy	SRE	NYS
Southern Co.	SO	NYS
Unitil Corp.	UTL	AMS
WEC Energy Group	WEC	NYS
Xcel Energy Inc.	XEL	NDQ

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
Comparison Group Screening **Exhibit MFG-5**
S&P Capital IQ Pro, June 12, 2024

Companies in boldface are excluded for failure to meet one or more criteria

Company	Ticker	Merger, Acquisition, or Other	S&P Credit Rating	Paying Dividends	Postive EPS Growth Rates
ALLETE, Inc.*	ALE	**Yes**	BBB	Yes	Yes
Alliant Energy Corporation	LNT	No	A-	Yes	Yes
Ameren Corporation	AEE	No	BBB+	Yes	Yes
American Electric Power Co.	AEP	No	BBB+	Yes	Yes
Avangrid, Inc.**	AGR	**Yes**	BBB+	Yes	Yes
Avista Corporation	AVA	No	BBB	Yes	Yes
Black Hills Corporation	BKH	No	BBB+	Yes	Yes
CenterPoint Energy, Inc.***	CNP	**Yes**	BBB+	No	Yes
CMS Energy Corporation	CMS	No	BBB+	Yes	Yes
Consolidated Edison, Inc.	ED	No	A-	Yes	Yes
Dominion Energy, Inc.	D	No	BBB+	Yes	Yes
DTE Energy Company	DTE	No	BBB+	Yes	Yes
Duke Energy Corporation	DUK	No	BBB+	Yes	Yes
Edison International	EIX	No	BBB	Yes	Yes
Emera Incorporated	EMA	No	BBB	Yes	Yes
Entergy Corporation	ETR	No	BBB+	Yes	Yes
Evergy, Inc.	EVRG	No	BBB+	Yes	Yes
Eversource Energy	ES	No	A-	Yes	Yes
Exelon Corporation****	EXC	No	BBB+	Yes	**No**
Fortis Inc.	FTS.TO	No	A-	Yes	Yes
Hawaiian Elec Industries, Inc.*****	HE	No	**B-**	Yes	Yes
IDACORP, Inc.	IDA	No	BBB	Yes	Yes
MGE Energy, Inc.#	MGEE	No		Yes	Yes
NextEra Energy, Inc.	NEE	No	A-	Yes	Yes
NorthWestern Corporation	NWE	No	BBB	Yes	Yes
OGE Energy Corp.	OGE	No	BBB+	Yes	Yes
Otter Tail Corporation	OTTR	No	BBB	Yes	Yes
PG&E Corporation##	PCG	No	**BB**	**No**	Yes
Pinnacle West Capital Corporation	PNW	No	BBB+	Yes	Yes
PNM Resources, Inc.###	PNM	**Yes**	BBB	Yes	Yes
Portland General Electric Company	POR	No	BBB+	Yes	Yes
PPL Corporation	PPL	No	A-	Yes	Yes
Public Service Enterprise Group Inc.	PEG	No	BBB+	Yes	Yes
Sempra Energy	SRE	No	BBB+	Yes	Yes
Southern Company	SO	No	BBB+	Yes	Yes
Unitil Corporation	UTL	No	BBB+	Yes	Yes
WEC Energy Group, Inc.	WEC	No	A-	Yes	Yes
Xcel Energy Inc.	XEL	No	BBB+	Yes	Yes
FirstEnergy Corp.####	FE	**Yes**	BBB	Yes	Yes

*-ALLETE is being acquired and taken private by a Canadian pension fund and private equity firm. Announced May 6, 2024.
**-Avangrid is a controlled company 81.4 percent owned by Iberdrola; Iberdrola has made an offer to the independent directors of Avangrid to acquire the portion of Avangrid that it does not own.
***-CenterPoint Energy is selling its Louisiana and Mississippi natural gas operations. The transaction is expected to close in the first quarter of 2025.
****-Exelon does not have an EPS growth rate from Value Line.
*****-Hawaiian Electric Industries has a B- credit rating
#-MGE Energy does not have an S&P credit rating
##-PG&E Corporation as it exits bankruptcy pnly resumed paying dividends in the first quarter of 2024.
###-PNM Resources's share prices plunged after Avangrid withdrew an attempted acquisition.
####-FirstEnergy Corp. is the parent company of subject company FirstEnergy.

S&P Capital IQ PRO

ALLETE, Inc. | Key Development Details

NYSE: ALE (MI KEY: 4022309; SPCIQ KEY: 289272)

Canada Pension Plan Investment Board and Global Infrastructure Management, LLC entered into a definitive agreement to acquire ALLETE, Inc. (NYSE:ALE) for $3.9 billion in a going private transaction.

Canada Pension Plan Investment Board and Global Infrastructure Management, LLC entered into a definitive agreement to acquire ALLETE, Inc. (NYSE:ALE) for $3.9 billion in a going private transaction on May 5, 2024. In connection with the merger, CPP Investments and GIP will acquire all of the outstanding common shares of ALLETE for $67.00 per share in cash representing an enterprise value of approximately $6.2 billion, including ALLETE's net debt. Upon completion of the acquisition, ALLETE's shares will no longer trade on the New York Stock Exchange, and ALLETE will become a private company. Upon termination of the Merger Agreement under certain specified circumstances, CPPIB and Global Infrastructure Management would be required to pay a termination fee of $212 million or $164 million (depending on the specific circumstances of termination) to ALLETE, and under other specified circumstances, ALLETE would be required to pay CPPIB and Global Infrastructure Management a termination fee of $116 million. The acquisition includes all of ALLETE's businesses, each company will continue to operate under its current name and brand. ALLETE will remain locally managed with our headquarters in Duluth, Minnesota, and we will continue our strong engagement with all the communities our ALLETE companies and talented teams serve. Bethany Owen will continue as a Chief Executive Offer and current management team will continue to lead ALLETTE. The transaction is subject to the approval of ALLETE's shareholders, the receipt of regulatory approvals, including by the MPUC, PSCW and FERC, the expiration or termination of the applicable waiting period under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 and other customary closing conditions. Dividends payable to ALLETE shareholders are expected to continue in the ordinary course until the closing, subject to approval by ALLETE's Board of Directors. The acquisition was unanimously approved by ALLETE's Board of Directors and board of CCPIB and Global Infrastructure Management. The merger is expected to close in mid-2025. J.P. Morgan Securities LLC is acting as lead financial advisor and provided a fairness opinion to ALLETE, and Houlihan Lokey Capital, Inc. acted as financial advisor and also provided a fairness opinion to ALLETE. Pankaj Sinha, Emily Prezioso Walsh, Erik Elsea of Skadden, Arps, Slate, Meagher & Flom LLP is acting as legal advisors to ALLETE. Andrew T. Calder, Emily Lichtenheld, Melissa Kalka, Mary Kogut, Chad Davis, Julian Seiguer, Bryan Flannery, David Wheat, Stephen Butler, Brooksany Barrowes, Ben Hardison and Doug Bacon of Kirkland & Ellis LLP and David S. Allinson, Richard Quay and David Beller of Latham & Watkins LLP acted as legal advisors for CPPIB and Global Infrastructure Management. Morgan Stanley & Co. LLC and Moelis & Company acted as financial advisors for CPPIB and Global Infrastructure Management. Aaron Dixon of Alston & Bird, LLP represented Houlihan Lokey as financial advisor to ALLETE, Inc.

Company Name	ALLETE, Inc.
Event Date	5/6/2024
Announcement Date	5/6/2024
Development Type	M&A: Transaction Announcement
Source	Capital IQ Transaction Database
Advisors	NA

Related Transactions

TRANSACTION ID	ANNOUNCEMENT DATE	NAME OF THE TARGET OR ISSUER	NAME OF THE BUYER OR INVESTOR	SELLER	TRANSACTION TYPE	TRANSACTION VALUE ($M)	INDUSTRY
2080116	5/6/2024	ALLETE, Inc.	Canada Pension Plan Investment Board; Global Infrastructure Management,	NA	M&A - Acquisition of Whole Company (incl. Majority	6,232.93	Electric Utilities

S&P Capital IQ PRO

RRA REGULATORY FOCUS

CenterPoint agrees to sell its Southeast US gas utilities to Bernhard Capital

Tuesday, February 27, 2024 9:07 AM CT

By Jim Davis
Market Intelligence

On Feb. 20, CenterPoint Energy Inc. said it reached an agreement through which Bernhard Capital Partners Management LP would acquire its local gas distribution businesses in Louisiana and Mississippi for $1.2 billion. CenterPoint Energy provides natural gas utility service to roughly 380,000 customers through its operations in the two states via its CenterPoint Energy Resources Corp. subsidiary.

The Take

➤ The proposed transaction requires approval from the Louisiana Public Service Commission and the Mississippi Public Service Commission, according to the announcement. Assuming all necessary regulatory approvals are secured, the parties expect the deal to be completed in the first quarter of 2025.

➤ Criteria for reviewing and approving mergers and acquisitions of regulated utilities in Louisiana and Mississippi are relatively stringent, and there is no specific time frame under which the regulatory bodies are required to render a decision on a proposed transaction.

➤ Regulatory Research Associates views the Louisiana regulatory environment as relatively balanced from an investor perspective.

➤ RRA views the Mississippi regulatory environment as more constructive than average from an investor perspective.

The companies have not yet filed for approval of the proposed transaction with regulators in either state, but CenterPoint Energy said successful competition of the transaction would allow it to support its "industry-leading capital plan" and to reprioritize "future capital investments ... of approximately $1 billion elsewhere across its regulated electric and natural gas utility footprint."

New Orleans-based Bernhard is pursuing the acquisition of the natural gas distribution businesses of Entergy Corp. in a separate transaction in the region.

Louisiana PSC

CenterPoint Energy Resources' (CER) two Louisiana operating divisions — Centerpoint Energy Arkla and CenterPoint Energy Entex — are subject to oversight by the PSC. The Arkla division provides utility service to roughly 131,000 customers across 10 parishes in northern Louisiana, and the Entex division provides utility service to about 117,000 customers across 20 parishes in central and southern Louisiana, according to commission orders dated May 19, 2022.

Utility alternative regulation information

Arkla and Entex have been operating under rate stabilization plans (RSPs), a form of alternative regulation, for many years.

The two operating divisions have separate RSPs in place with identical return parameters, including a benchmark 9.95% return on equity (ROE) and a 100-basis-point deadband. Each division submits annual RSP filings, and to the extent that the earned ROE falls outside of the deadband — below 9.45% or above 10.45% — rates are prospectively adjusted by the amount necessary to achieve the benchmark 9.95% ROE.

Arkla division

Arkla's most recent RSP filing (based on a test year ended June 30, 2023) is pending before the commission. It was filed Sept. 29, 2023, and specifies an RSP increase of $5.2 million. It also specifies a rate base of $188 million.

The most recent RSP decision rendered by the commission provided for the utility to implement a $1.2 million net RSP increase (based on a test year ended June 30, 2022). The April 5, 2023, commission ruling adopted a joint report filed by CER and the PSC staff March 3, 2023.

Entex division

Entex's most recent RSP filing Sept. 29, 2023, (based on a test year ended June 30, 2023) specifies a $4.4 million RSP increase. The filing specifies a rate base of $160 million. The proceeding is pending before the commission.

The PSC's most recent RSP decision for Entex was issued April 5, 2023, (based on a test year ended June 30, 2022) following a joint report submitted by CER and the commission staff. The PSC ruling authorized the division a $3.8 million net RSP increase.

Avangrid Announces Receipt of "Take Private" Proposal From Iberdrola, S.A.
Business Wire
Thursday, March 7, 2024, 6:36:00 AM EST

ORANGE, Conn.--(BUSINESS WIRE)-- Today Avangrid, Inc. (NYSE: AGR), a leading sustainable energy company, and a member of the group of companies controlled by Iberdrola, S.A., announced that **the Unaffiliated Committee of its Board of Directors received a non-binding proposal from Iberdrola, S.A. on March 6, 2024 to acquire all of the issued and outstanding shares of common stock of Avangrid not owned by Iberdrola, S.A. or its affiliates for $34.25 in cash per share. Iberdrola, S.A. owns approximately 81.6% of Avangrid's issued and outstanding shares of common stock.**

On March 6, 2024, the Avangrid Board met and determined that the Unaffiliated Committee will review, evaluate, negotiate, and approve or disapprove the proposal, advised by independent legal and financial advisers, as well as any other alternative proposals or other strategic alternatives that may be available to Avangrid. The consummation of the proposed transaction is conditioned upon the approval of the proposed transaction by the Unaffiliated Committee and by the Avangrid shareholders that hold in the aggregate a majority of the outstanding shares of common stock that are not held by Iberdrola, S.A. and its affiliates.

No decision has yet been made with respect to Avangrid's response to the proposal or any alternatives thereto. Avangrid's Board cautions that it has only received a proposal, which does not constitute an offer or proposal capable of acceptance and may be withdrawn at any time and in any manner. There can be no assurance that any definitive offer will be made, that any agreement will be executed or that the transaction proposed in the proposal or any other transaction will be approved or completed.

About Avangrid: Avangrid, Inc. (NYSE: AGR) aspires to be the leading sustainable energy company in the United States. Headquartered in Orange, CT with approximately $44 billion in assets and operations in 24 U.S. states, Avangrid has two primary lines of business: networks and renewables. Through its networks business, Avangrid owns and operates eight electric and natural gas utilities, serving more than 3.3 million customers in New York and New England. Through its renewables business, Avangrid owns and operates a portfolio of renewable energy generation facilities across the United States. Avangrid employs more than 7,500 people and was recognized by JUST Capital as one of the JUST 100 companies – a ranking of America's best corporate citizens - in 2024 for the fourth consecutive year. In 2024, Avangrid ranked first within the utility sector for its commitment to the environment. The company supports the U.N.'s Sustainable Development Goals and was named among the World's Most Ethical Companies in 2024 for the sixth consecutive year by the Ethisphere Institute. Avangrid is a member of the group of companies controlled by Iberdrola, S.A. For more information, visit https://www.avangrid.com.

Forward Looking Statements

Certain statements in this release may relate to our future business and financial performance and future events or developments involving us and our subsidiaries that are not purely historical and may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by the use of forward-looking terms such as "may," "will," "should," "would," "could," "can," "expect(s)," "believe(s)," "anticipate(s)," "intend(s)," "plan(s)," "estimate(s)," "project(s)," "assume(s)," "guide(s)," "target(s)," "forecast(s)," "are (is) confident that" and "seek(s)" or the negative of such terms or other variations on such terms or comparable terminology. These forward-looking statements generally include statements regarding the potential transaction between Avangrid and Iberdrola, including any statements regarding the expected timetable for completing the potential transaction, the ability to complete the potential

transaction, the expected benefits of the potential transaction, projected financial information, future opportunities, and any other statements regarding the Corporation's future expectations, beliefs, plans, objectives, results of operations, financial condition and cash flows, or future events or performance. Readers are cautioned that all forward-looking statements are based upon current reasonable beliefs, expectations and assumptions. The Corporation's business, financial condition, cash flow, and operating results are influenced by many factors, which are often beyond its control, that can cause actual results to differ from those expressed or implied by the forward-looking statements. For a discussion of risk factors and other important factors affecting forward-looking statements, please see the Corporation's Annual Reports on Form 10-K and Quarterly Reports on Form 10-Q filings and the information filed on the Corporation's Forms 8-K with the Securities and Exchange Commission (the "SEC") as well as its subsequent SEC filings, and the risks and uncertainties related to the proposed transaction with Iberdrola, including, but not limited to: the expected timing and likelihood of completion of the proposed transaction, including the timing, receipt and terms and conditions of any required shareholder, governmental and regulatory approvals of the proposed transaction that could reduce anticipated benefits or cause the parties to abandon the transaction, risks related to disruption of management time from ongoing business operations due to the proposed transaction, the risk that the proposed transaction and its announcement could have an adverse effect on the ability of the Corporation to retain and hire key personnel and maintain relationships with its customers and suppliers, and on its operating results and businesses generally, and litigation or administrative proceedings that may arise in connection with the proposed transaction. Other unpredictable or unknown factors not discussed in this communication could also have material adverse effects on forward-looking statements. Should one or more of these risks or uncertainties materialize, or should any of the underlying assumptions prove incorrect, actual results may vary in material respects from those expressed or implied by these forward-looking statements. You should not place undue reliance on these forward-looking statements. The Corporation does not undertake any obligation to update or revise any forward-looking statements to reflect events or circumstances after the date of this release, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. Other risk factors are detailed from time to time in the Corporation's reports filed with the SEC and we encourage you to consult such disclosures.

View source version on businesswire.com: https://www.businesswire.com/news/home/20240307874858/en/

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Source: AVANGRID, Inc.

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PNM RESOURCES NYSE-PNM

RECENT PRICE **37.45** | P/E RATIO **14.2** (Trailing: 13.3, Median: 19.0) | RELATIVE P/E RATIO **0.77** | DIV'D YLD **4.2%** | **VALUE LINE**

TIMELINESS 3 Lowered 2/2/24
SAFETY 3 Lowered 1/19/24
TECHNICAL 4 Lowered 3/1/24
BETA .90 (1.00 = Market)

18-Month Target Price Range

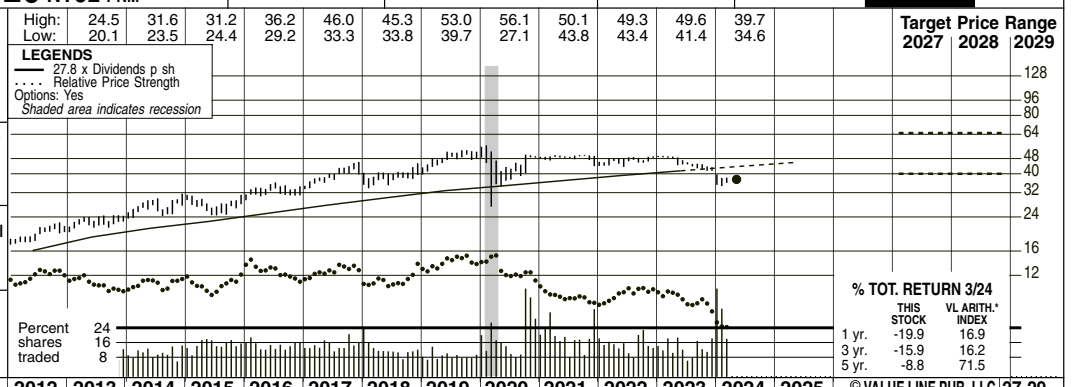
Low-High	Midpoint (% to Mid)
$34-$56	$45 (20%)

2027-29 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+75%)	*18%*
Low	40	(+5%)	*6%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	134	140	151
to Sell	146	139	144
Hld's(000)	78139	81263	82439



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
22.65	19.01	19.31	21.35	16.85	17.42	18.03	18.07	17.11	18.14	18.04	18.30	17.74	20.74	26.21	21.50	***23.90***	***25.25***	Revenues per sh	***29.45***
1.76	2.32	2.67	3.18	3.39	3.52	4.09	4.28	4.51	5.30	5.47	5.95	5.80	6.19	6.67	6.62	***6.80***	***7.25***	"Cash Flow" per sh	***8.70***
.11	.58	.87	1.08	1.31	1.41	1.45	1.48	1.46	1.92	2.00	2.16	2.28	2.45	2.69	2.82	***2.70***	***2.85***	Earnings per sh [A]	***3.40***
.61	.50	.50	.50	.58	.68	.76	.82	.90	.99	1.09	1.18	1.25	1.33	1.41	1.49	***1.57***	***1.65***	Div'd Decl'd per sh [B] ■ †	***1.89***
3.99	3.32	3.25	4.10	3.88	4.37	5.78	7.01	7.53	6.28	6.29	7.74	7.91	10.89	10.63	11.93	***12.90***	***13.85***	Cap'l Spending per sh	***13.50***
18.89	18.90	17.60	19.62	20.05	20.87	22.39	20.78	21.04	21.28	21.20	21.08	23.88	25.25	25.54	26.04	***27.40***	***28.80***	Book Value per sh [C]	***33.60***
86.53	86.67	86.67	79.65	79.65	79.65	79.65	79.65	79.65	79.65	79.65	79.65	85.83	85.83	85.83	90.20	***91.00***	***92.00***	Common Shs Outst'g [D]	***95.00***
NMF	18.1	14.0	14.5	15.0	16.1	18.7	18.7	22.4	20.4	19.4	22.2	19.6	19.9	17.4	16.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***15.5***
NMF	1.21	.89	.91	.95	.90	.98	.94	1.18	1.03	1.05	1.18	1.01	1.08	1.01	.91			Relative P/E Ratio	***.85***
4.9%	4.8%	4.1%	3.2%	3.0%	3.0%	2.8%	3.0%	2.8%	2.5%	2.8%	2.5%	2.8%	2.7%	3.0%	3.2%			Avg Ann'l Div'd Yield	***3.6%***
1435.9	1439.1	1363.0	1445.0	1436.6	1457.6	1523.0	1779.9	2249.6	1939.2	***2175***	***2325***	Revenues ($mill)	***2800***
116.8	118.8	117.4	154.4	160.6	173.1	183.4	211.6	232.0	244.1	***245***	***265***	Net Profit ($mill)	***325***
34.8%	36.9%	32.4%	33.0%	12.9%	8.1%	9.5%	13.4%	14.6%	13.6%	***14.5%***	***15.0%***	Income Tax Rate	***16.0%***
10.7%	17.0%	11.0%	11.9%	12.1%	9.8%	8.9%	8.6%	9.0%	12.3%	***12.0%***	***13.0%***	AFUDC % to Net Profit	***13.0%***
47.8%	54.1%	55.7%	56.1%	61.1%	59.8%	56.9%	61.8%	63.9%	64.2%	***66.0%***	***67.5%***	Long-Term Debt Ratio	***69.0%***
51.9%	45.5%	44.0%	43.6%	38.6%	39.9%	42.9%	38.0%	36.0%	35.6%	***33.5%***	***32.0%***	Common Equity Ratio	***30.5%***
3437.1	3633.3	3806.8	3887.5	4370.0	4207.7	4780.6	5698.6	6096.1	6602.3	***7400***	***8250***	Total Capital ($mill)	***10400***
4270.0	4535.4	4904.7	4980.2	5234.6	5466.0	5965.1	6752.9	6972.8	7609.9	***8400***	***9300***	Net Plant ($mill)	***11500***
5.1%	4.8%	4.7%	5.3%	5.0%	5.5%	4.9%	4.6%	4.9%	5.0%	***4.5%***	***4.5%***	Return on Total Cap'l	***4.5%***
6.5%	7.1%	7.0%	9.0%	9.4%	10.2%	8.9%	9.7%	10.5%	10.3%	***10.0%***	***10.0%***	Return on Shr. Equity	***10.0%***
6.5%	7.1%	7.0%	9.1%	9.5%	10.3%	8.9%	9.7%	10.6%	10.4%	***10.0%***	***10.0%***	Return on Com Equity [E]	***10.0%***
3.2%	3.3%	2.8%	4.5%	4.5%	4.8%	4.1%	4.6%	5.1%	5.0%	***4.0%***	***4.0%***	Retained to Com Eq	***4.5%***
51%	54%	61%	51%	53%	54%	54%	53%	52%	52%	***58%***	***58%***	All Div'ds to Net Prof	***55%***

CAPITAL STRUCTURE as of 12/31/23
Total Debt $4783.7 mill. **Due in 5 Yrs** $2177.6 mill.
LT Debt $4241.6 mill. **LT Interest** $169.0 mill.
(Total Interest Coverage: 2.4x)

Leases, Uncapitalized Annual rentals $12.0 mill.

Pension Assets-12/22 $448.6 mill.
Oblig $461.2 mill.
Pfd Stock $11.5 mill. **Pfd Div'd** $.5 mill.

Common Stock 90,200,384 shs.
as of 2/16/24
MARKET CAP: $3.4 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	1.0	5.2	1.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	1968	2139	2162
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	1.2	1.0	1.0
Fixed Charge Cov. (%)	317	289	230

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	2.0%	5.0%	*4.5%*
"Cash Flow"	7.0%	5.0%	*5.0%*
Earnings	7.5%	8.0%	*5.0%*
Dividends	9.0%	7.0%	*5.0%*
Book Value	2.5%	4.0%	*4.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	364.7	426.5	554.6	434.1	1779.9
2022	444.1	499.7	729.9	575.9	2249.6
2023	544.1	477.2	505.9	412.0	1939.2
2024	***560***	***525***	***580***	***510***	***2175***
2025	***595***	***560***	***630***	***540***	***2325***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	.32	.55	1.37	.21	2.45
2022	.50	.57	1.46	.15	2.69
2023	.55	.55	1.54	.18	2.82
2024	***.45***	***.55***	***1.45***	***.25***	***2.70***
2025	***.50***	***.60***	***1.50***	***.25***	***2.85***

QUARTERLY DIVIDENDS PAID [B] ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.3075	.3075	.3075	.3075	1.23
2021	.3275	.3275	.3275	.3275	1.31
2022	.3475	.3475	.3475	.3475	1.39
2023	.3675	.3675	.3675	.3675	1.47
2024	.3875				

BUSINESS: PNM Resources, Inc. is a holding company with two regulated electric utilities. Public Service Company of New Mexico (PNM) serves 548,000 customers in north central New Mexico, including Albuquerque and Santa Fe. Texas-New Mexico Power Company (TNMP) transmits and distributes power to 272,000 consumers in Texas. Electric revenue breakdown: residential, 32%; commercial, 28%; industrial, 7%; other, 33%. Generating sources not available. Fuel costs: 46% of revenues. '23 reported depreciation rates: 2.67%-7.64%. Has 1,600 employees. Chairman and CEO: Patricia K. Collawn. Incorporated: New Mexico. Address: 414 Silver Ave. SW, Albuquerque, New Mexico 87102-3289. Telephone: 505-241-2700. Internet: www.pnmresources.com.

PNM Resources' stock has been reeling after the company was left at the alter by its former merger partner. Investors may recall that PNM stockholders were to receive $50.30 per share in an all-cash deal from Northeast utility, Avangrid, Inc. (NYSE: AGR). At various stages of a lengthy courtship it looked as if the marriage would eventually be consummated despite regulators standing in the way. Ultimately, it was Avangrid's parent company, Iberdrola of Spain, who nixed the deal. The Spanish energy giant decided that buying the 18.4% minority stake in Avangrid itself for $34.25 a share is a better use of funds, as that deal is now on the table for AGR shareholders. Year to date, PNM stock is down 11%.

New Mexico regulators' early January rate decision didn't help matters. The New Mexico Public Regulation Commission ruled against the company on every front, making good on the state's reputation for being a difficult regulatory environment. Instead of the rise in its return on equity (ROE) that PNM was seeking, the company instead received a cut from 9.575% to 9.26%. Overall, $64 million in additional revenue was sought, much of that to recoup various investments made in the past to extend the lives of a coal-fired generating facility and a nuclear power plant. Regulators ruled that those investments were "imprudent" and disallowed them. The poor rate-base outcome and increased interest expense on an expanding debt load will likely weigh on this year's bottom line.

Even so, this equity may appeal to utility investors. The New Mexico operation is an average business of this sort, as it has reasonable long-term growth prospects, but is in a tough regulatory climate. Meanwhile, PNM's smaller, interstate long-range transmission & distribution (T&D) businesses, which serve around 300,000 consumers in Texas and New Mexico, are engines of growth for the company and suffer little regulatory lag. Beyond 2024, the recoupment of substantial T&D investments, via regulatory pricing mechanisms, can drive 5%-6% annual earnings and dividend gains. That should translate to worthwhile total return prospects out to late decade.

Anthony J. Glennon *April 19, 2024*

(A) Dil. EPS. Excl. nonrec. gain/(loss): '08, ($3.77); '10, ($1.36); '11, 88¢; '13, (16¢); '15, ($1.28); '17, (92¢); '18, (93¢); '19, ($1.19); '20, (13¢); '21, (18¢); '22, (72¢); '23, ($1.80). Excl. disc. op. gains: '08, 42¢; '09, 78¢. Next egs. report due early May. **(B)** Div'ds paid mid-Feb., May, Aug., & Nov. ■ Div'd reinv. plan avail. **(C)** Incl. def. charges/other intang. In '23: $15.45/sh. **(D)** In mill. **(E)** Rate base: net orig. cost. Rate allowed on com. eq. in NM in '23: 9.26%; in TX in '18: 9.65%; Regulatory Climate: NM, Below Average.; TX, Average.

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	60
Earnings Predictability	95

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S&P Global
Ratings

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General Criteria: Understanding S&P Global Ratings' Rating Definitions

03-Jun-2009 14:39 EDT

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(**Editor's Note:** We're republishing this article following our periodic review completed on Feb. 23, 2018. See the "Revisions And Updates" section for details.)

Executive Summary

S&P Global Ratings' credit ratings are designed primarily to provide relative rankings among issuers and obligations of overall creditworthiness; the ratings are not measures of absolute default probability. Creditworthiness encompasses likelihood of default, and also includes (i) payment priority, (ii) recovery, and (iii) credit stability.

In addition, our rating symbols are intended to connote the same general level of creditworthiness for issuers and bonds in different sectors and at different times. In order to promote the comparability of ratings across sectors, geographies, and over time, we are introducing stress scenarios associated with each rating category. These stress scenarios will be an important tool for calibrating our criteria to help maintain comparability. The scenarios will not become part of the rating definitions. Nor will they be the sole or primary drivers of our criteria.

S&P Global Ratings is committed to taking action to help restore confidence in ratings. As one example, over the past year, we have launched a number of initiatives designed to foster greater transparency in our analytics and processes. These initiatives have included publishing "what-if" scenario analyses discussing factors that could cause ratings to change, more

explicit discussions of the assumptions we used in forming our opinions, and changes we have made to our rating criteria for several asset classes resulting from macroeconomic developments and ongoing performance data.

By providing more information and data about ratings, we can help market participants better understand how we develop our ratings and -- whether they agree or disagree with our assessment -- act accordingly.

This article is designed to help market participants better understand what our credit ratings mean. Although the official definitions appear outwardly to be very simple, they embody multiple factors that compose the overall assessment of creditworthiness.

S&P Global Ratings has striven to maintain comparability of ratings across sectors. This has been done by relating all ratings to common default behavior and measurement and by common approaches to risk analysis. In the spirit of promoting greater transparency, S&P Global Ratings is now articulating a set of economic stress scenarios enumerated in Appendix IV, which we intend to use as benchmarks for enhancing the consistency and comparability of ratings across sectors and over time. Each scenario describes particular conditions of economic stress, which we associate with a particular rating level, as described in the appendix. Credits rated in each category are intended to be able to withstand particular conditions of economic stress without defaulting (though they might be downgraded significantly as economic stresses increase).

This publication intends to promote greater understanding of ratings and help investors attribute clearer meanings to different rating categories.

Key Attributes Of S&P Global Ratings' Credit Ratings

Rank ordering of creditworthiness

Our credit ratings express forward-looking opinions about the creditworthiness of issuers and obligations (see Appendix I for a description of "issuer" and "issue" ratings). More specifically, our credit ratings express a relative ranking of creditworthiness. Issuers and obligations with higher ratings are judged by us to be more creditworthy than issuers and obligations with lower credit ratings. (See Appendix III for a relevant excerpt from the rating definitions.)

Creditworthiness is a multi-faceted phenomenon. Although there is no "formula" for combining the various facets, our credit ratings attempt to condense their combined effects into rating symbols along a simple, one-dimensional scale. Indeed, as discussed below, the relative importance of the various factors may change in different situations.

The term creditworthiness refers to the question of whether a bond or other financial instrument will be paid according to its contractual terms. At first blush, the idea of creditworthiness seems entirely straightforward. However, delving beneath the outward simplicity reveals the true multi-dimensional nature.

Primary factor -- likelihood of default

In our view, likelihood of default is the centerpiece of creditworthiness. That means likelihood of default--encompassing both capacity and willingness to pay--is the single most important factor in our assessment of the creditworthiness of an issuer or an obligation. Therefore, consistent with our goal of achieving a rank ordering of creditworthiness, higher ratings on issuers and obligations reflect our expectation that the rated issuer or obligation should default less frequently than issuers and obligations with lower ratings, all other things being equal.

Although we emphasize the rank ordering of default likelihood, we do not view the rating categories solely in relative terms. We associate each successively higher rating category with the ability to withstand successively more stressful economic environments, which we view as less likely to occur. We associate issuers and obligations rated in the highest categories with the ability to withstand extreme or severe stress in absolute terms without defaulting. Conversely, we associate issuers and obligations rated in lower categories with vulnerability to mild or modest stress. (See Appendix IV for stress scenarios by rating level that we intend to use in promoting ratings comparability. Appendix V contains a listing of historical examples of stress conditions, including the magnitude of stress that we associate with each.)

Looking to absolute stress levels is part of how we try to achieve comparability of ratings across different types of securities, different times, different currencies, and different regions. That is, we strive to make our rating symbols correspond to the same approximate level of creditworthiness wherever they appear. Thus, when we use a given rating

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
Comparison Group Screening **Exhibit MFG-11**
S&P Credit Ratings
S&P Capital IQ Pro, June 7, 2024

Company	S&P Credit Rating BBB to A-
Alliant Energy Corporation	A-
Consolidated Edison, Inc.	A-
Eversource Energy	A-
Fortis Inc.	A-
NextEra Energy, Inc.	A-
PPL Corporation	A-
WEC Energy Group, Inc.	A-
Ameren Corporation	BBB+
American Electric Power Co.	BBB+
Black Hills Corporation	BBB+
CMS Energy Corporation	BBB+
Dominion Energy, Inc.	BBB+
DTE Energy Company	BBB+
Duke Energy Corporation	BBB+
Entergy Corporation	BBB+
Evergy, Inc.	BBB+
OGE Energy Corp.	BBB+
Pinnacle West Capital Corporation	BBB+
Portland General Electric Company	BBB+
Public Service Enterprise Group Inc.	BBB+
Sempra Energy	BBB+
Southern Company	BBB+
Unitil Corporation	BBB+
Xcel Energy Inc.	BBB+
Avista Corporation	BBB
Edison International	BBB
Emera Incorporated	BBB
IDACORP, Inc.	BBB
NorthWestern Corporation	BBB

FirstEnergy	BBB+
FirstEnergy Corp.	BBB

EXELON CORP. NDQ-EXC

RECENT PRICE **37.72** | P/E RATIO **15.4** (Trailing: 15.7 / Median: 14.0) | RELATIVE P/E RATIO **0.89** | DIV'D YLD **4.0%** | **VALUE LINE**

TIMELINESS — Suspended 2/4/22 [F]
SAFETY 2 Raised 8/13/21
TECHNICAL — Suspended 2/4/22
BETA NMF (1.00 = Market)

18-Month Target Price Range
Low-High **Midpoint (% to Mid)**
$26-$44 $35 (-5%)

2027-29 PROJECTIONS

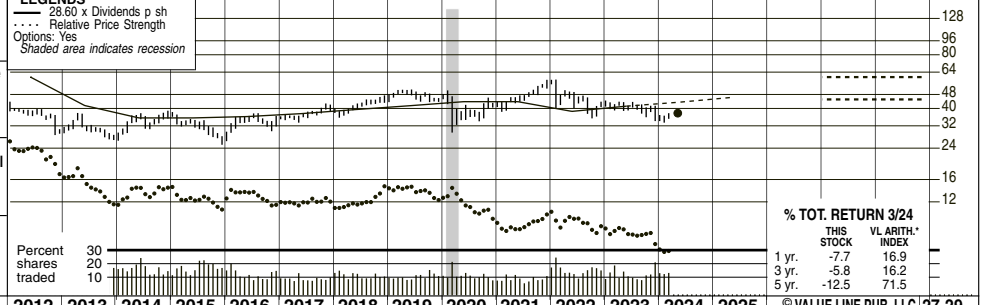
	Price	Gain	Ann'l Total Return
High	60	(+60%)	*15%*
Low	45	(+20%)	*8%*

Institutional Decisions

	2Q2023	3Q2023	4Q2023
to Buy	438	453	458
to Sell	411	400	475
Hld's(000)	812887	816650	820814

	37.8	38.9	38.3	37.7	42.7	47.4	51.2	50.5	58.0	58.2	44.4	38.0	Target Price Range
High:													2027 2028 2029
Low:	26.6	26.5	25.1	26.3	33.3	35.6	43.4	29.3	38.4	35.2	34.1	33.3	

LEGENDS
28.60 x Dividends p sh
Relative Price Strength
Options: Yes
Shaded area indicates recession



% TOT. RETURN 3/24

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-7.7	16.9
3 yr.	-5.8	16.2
5 yr.	-12.5	71.5

2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
28.65	26.25	28.17	28.53	27.48	29.03	31.90	32.01	33.94	34.81	37.17	35.39	33.85	37.13	19.19	21.75	*21.50*	*22.00*	Revenues per sh	*24.65*
7.64	8.25	8.32	7.23	6.61	6.72	6.61	6.80	7.88	8.37	9.29	9.17	9.65	10.56	6.07	6.12	*6.25*	*6.55*	"Cash Flow" per sh	*7.50*
4.10	4.29	3.87	3.75	1.92	2.31	2.10	2.54	2.68	2.78	3.12	3.22	3.22	2.82	2.26	2.38	*2.45*	*2.60*	Earnings per sh [A]	*3.10*
2.05	2.10	2.10	2.10	2.10	1.46	1.24	1.24	1.26	1.31	1.38	1.45	1.53	1.53	1.35	1.44	*1.52*	*1.62*	Div'd Decl'd per sh [B] ■	*1.95*
4.74	4.96	5.03	6.09	6.77	6.29	7.07	8.29	9.26	7.87	7.84	7.45	8.25	8.15	7.19	7.42	*7.80*	*7.80*	Cap'l Spending per sh	*8.00*
16.78	19.16	20.49	21.68	25.07	26.52	26.29	28.04	27.96	30.99	31.77	33.12	33.39	35.13	24.89	25.78	*26.35*	*27.25*	Book Value per sh [C]	*29.75*
658.15	659.76	661.85	663.37	854.78	857.29	859.83	919.92	924.04	963.34	968.19	973.00	976.00	979.00	994.00	999.00	*1000.0*	*1000.0*	Common Shs Outst'g [D]	*1005.0*
18.0	11.5	11.0	11.3	19.1	13.4	16.0	12.6	12.5	13.4	13.3	14.7	12.4	16.6	19.9	17.0	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*17.5*
1.08	.77	.70	.71	1.22	.75	.84	.63	.66	.67	.72	.78	.64	.90	1.15	.95			Relative P/E Ratio	*.95*
2.8%	4.3%	4.9%	5.0%	5.7%	4.7%	3.7%	3.9%	3.7%	3.5%	3.3%	3.1%	3.8%	3.3%	3.2%	4.3%			Avg Ann'l Div'd Yield	*3.5%*
27429	29447	31360	33531	35985	34438	33039	36347	19078	21727	*21500*	*22000*	Revenues ($mill)	*24750*
1826.0	2282.0	2488.0	2636.0	3026.0	3139.0	3149.0	2764.0	2170.0	2328.0	*2450*	*2600*	Net Profit ($mill)	*3000*
27.2%	32.2%	38.5%	34.2%	11.1%	19.4%	17.4%	16.1%	14.5%	13.8%	*15.0%*	*15.0%*	Income Tax Rate	*15.0%*
5.5%	5.4%	8.3%	6.5%	4.6%	5.0%	5.5%	7.4%	7.0%	7.4%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
46.7%	48.3%	55.5%	52.2%	52.8%	49.6%	52.1%	50.9%	59.9%	60.3%	*61.0%*	*61.0%*	Long-Term Debt Ratio	*64.5%*
52.8%	51.3%	44.5%	47.8%	47.2%	50.4%	47.9%	49.1%	40.2%	39.1%	*39.0%*	*39.0%*	Common Equity Ratio	*35.5%*
42811	50272	58053	62422	65229	63943	68068	70107	58836	65837	*65250*	*70300*	Total Capital ($mill)	*81000*
52087	57439	71555	74202	76707	80233	82584	84219	69076	73593	*69750*	*70100*	Net Plant ($mill)	*77600*
5.3%	5.5%	5.5%	5.3%	5.7%	6.0%	5.7%	5.0%	5.0%	3.6%	*5.0%*	*5.0%*	Return on Total Cap'l	*5.0%*
8.0%	8.8%	9.6%	8.8%	9.8%	9.7%	9.7%	8.0%	9.5%	9.0%	*10.0%*	*10.0%*	Return on Shr. Equity	*10.0%*
8.0%	8.8%	9.6%	8.8%	9.8%	9.7%	9.7%	8.0%	9.5%	9.0%	*10.0%*	*10.0%*	Return on Com Equity [E]	*10.0%*
3.3%	4.5%	5.1%	4.7%	5.5%	5.4%	5.1%	3.7%	4.0%	3.5%	*4.0%*	*4.0%*	Retained to Com Eq	*4.0%*
59%	49%	47%	47%	44%	45%	47%	54%	60%	60%	*60%*	*60%*	All Div'ds to Net Prof	*60%*

CAPITAL STRUCTURE as of 12/31/23
Total Debt $42577 mill. **Due in 5 Yrs** $12334 mill.
LT Debt $39692 mill. **LT Interest** $1450 mill.
Includes $390 mill. nonrecourse transition bonds.
(Interest coverage: 2.7x)
Leases, Uncapitalized Annual rentals $156 mill.

Pension Assets-12/23 $20827 mill.
Oblig $23846 mill.

Pfd Stock None

Common Stock 999,538,542 shs.
as of 1/31/24
MARKET CAP: $37.7 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2021	2022	2023
% Change Retail Sales (KWH)	NA	NA	NA
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load (Mw)	NA	NA	NA
Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.6	NA	NA
Fixed Charge Cov. (%)	237	325	NA

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '21-'23 to '27-'29
Revenues	2.5%	1.0%	*NMF*
"Cash Flow"	3.0%	5.5%	*NMF*
Earnings	-.5%	2.5%	*NMF*
Dividends	-3.0%	4.0%	*NMF*
Book Value	4.5%	3.5%	*NMF*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	9890	7915	8910	9632	36347
2022	5327	4239	4845	4667	19078
2023	5562	4818	5980	5367	21727
2024	*5600*	*4850*	*6100*	*4950*	*21500*
2025	*5750*	*5000*	*6250*	*5000*	*22000*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	d.06	.89	1.09	.90	2.82
2022	.64	.44	.75	.43	2.26
2023	.70	.41	.67	.60	2.38
2024	*.70*	*.45*	*.80*	*.50*	*2.45*
2025	*.75*	*.45*	*.85*	*.55*	*2.60*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.3825	.3825	.3825	.3825	1.53
2021	.3825	.3825	.3825	.3825	1.53
2022	.3375	.3375	.3375	.3375	1.35
2023	.360	.360	.360	.360	1.44
2024	.380				

BUSINESS: Exelon Corporation is a holding company for Commonwealth Edison (ComEd), PECO Energy, Baltimore Gas and Electric (BGE), Pepco, Delmarva Power (DPL), & Atlantic City Electric (ACE). Has 9.1 mill. elec., 1.3 mill. gas customers. Spun off Constellation Energy (nonregulated generating & energy-marketing ops.) 2/22. Acq'd Constellation Energy 3/12; Pepco Holdings 3/16. Elec. rev. breakdown: residntl., 54%; small commercl. & indstrl., 16%; large commercl. & indstrl., 17%; other, 13%. Fuel costs: 48% of revs. '22 deprec. rates: 2.8%-8.7% elec., 2.1% gas. Has 18,700 empls. Chrmn.: John F. Young. CEO: Calvin Butler. Inc.: PA. Address: 10 S.Dearborn St., P.O. Box 805379, Chicago, IL 60680-5379. Telephone: 312-394-7398. Internet: www.exeloncorp.com.

Exelon Corporation continues to look more stable and predictable as an entirely regulated utility. Indeed, the company delivered a better-than-expected fourth-quarter performance, while also raising its quarterly dividend and capital spending plan. Management now looks for $35 billion of capital expenditures through 2027, a 10% increase from its previous outlook, and expects annual profit growth of 5%-7% over that interim. Investors were enthused with the strong final stanza and the stock has risen nearly 10% in value since our early February review, outperforming most electric utility equities. Exelon was set to release first-quarter financial results shortly after this report went to press. We look for earnings of $0.70 a share on revenues of $5.6 billion.

Our full-year 2024 profit estimate is staying put at $2.45 per share. This is the midpoint of management's initial target range of $2.40-$2.50 a share, which was released in late February. Exelon's earnings continue to be much less volatile as an entirely regulated utility, and results are benefiting from additional revenues from regulatory mechanisms and higher distribution rates. Along with rate relief, volume growth and growing power demand should contribute to higher profits. Regarding 2025, we estimate that the bottom line will advance 6%, to $2.60 a share, within managements aforementioned growth target.

The Illinois rate case rejection and higher power bills are challenging long-term energy goals. Remember, Exelon's Commonwealth Edison (COMED) unit had its $1.5 billion integrated grid plans rejected by the Illinois Commerce Commission in December, 2023. Since then, the transition toward renewable power has slowed as the utility has cut $1.4 billion in capital spending in Illinois and laid off 900 direct contractors, which impacted more than 2,000 indirect jobs. As of now, the company remains committed to reducing emissions by 50% by 2030 and achieving net-zero by 2050.

Income-oriented accounts may want to take a look at this issue. Exelon holds an above-average dividend yield and is generally considered to be a solid addition to a well-rounded portfolio.

Zachary J. Hodgkinson *May 10, 2024*

(A) Dil. egs. Excl. nonrec. gain (loss): '09, (20¢); '12, (50¢); '13, (31¢); '14, (22¢); '16, ($1.46); '17, $1.19; '18, ($1.05); '19, (21¢); '20, ($1.21); '21, ($1.08); Next egs. report: Aug. **(B)** Div'ds paid in early Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. deferred charges. In '22: $15.20/sh. **(D)** In mill. **(E)** Rate allowed on common equity in IL in '15: 9.25%; in MD in '16: 9.75% elec., 9.65% gas; Regulatory Climate: PA, NJ: Average; IL, MD: Below Avg. **(F)** Timeliness rank suspended due to Constellation Energy spinoff.

Company's Financial Strength	B++
Stock's Price Stability	NMF
Price Growth Persistence	NMF
Earnings Predictability	NMF

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ROE and ROR Analysis for FirstEnergy
Comparison Group
From Company 2023 10Ks, amounts in thousands of dollars (000)

Docket No. R-2024-3047068
Exhibit MFG-13

	Regulated Electricity Income*,**			Company Income*,**			Electricity as % of Company*,**				
Name	**2023**	**2022**	**2021**	**2023**	**2022**	**2021**	**2023**	**2022**	**2021**	**Average % Electricity**	**Source: 2023 10K Pages except where indicated**
PSEG [A]	1,974,000	1,892,000	1,818,000	3,685,000	1,381,000	(856,000)	53.6%	137.0%	-212.4%	-7.3%	P. 143-144
Sempra Energy*	4,334,000	4,783,000	4,658,000	16,720,000	14,439,000	12,857,000	25.9%	33.1%	36.2%	31.8%	P. F-8
Otter Tail Corp.	106,521	113,138	106,964	377,919	390,439	249,708	28.2%	29.0%	42.8%	33.3%	P. 53
Unitil Corporation***	17,900	15,700	14,000	45,200	41,400	36,100	39.6%	37.9%	38.8%	38.8%	P. 52
Black Hills Energy	248,800	214,300	202,700	472,700	455,200	409,400	52.6%	47.1%	49.5%	49.7%	P. 100-101
CMS Energy Corporation**	550,000	567,000	565,000	877,000	827,000	1,348,000	64.7%	68.3%	41.9%	66.5%	P. 92, 173
Consolidated Edison, Inc.	1,653,000	1,590,000	1,902,000	3,196,000	2,624,000	2,826,000	51.7%	60.6%	67.3%	59.9%	P. 159-160
Fortis Inc. [B]	1,901,000	1,654,000	1,482,000	3,084,000	2,740,000	2,469,000	61.6%	60.4%	60.0%	60.7%	Annual Reports: 2023, P. 20; 2021, P. 73
WEC Energy Group, Inc.**	971,600	889,100	814,000	1,331,700	1,409,700	1,298,500	73.0%	63.1%	62.7%	66.2%	P. 141-142
Emera Incorporated**	627,000	596,000	462,000	809,000	850,000	723,000	77.5%	70.1%	63.9%	70.5%	Annual Report P. 15
Avista, Inc.*	1,220,309	1,192,527	1,052,418	1,751,554	1,710,207	1,438,936	69.7%	69.7%	73.1%	70.8%	P. 20, 24, 77
DTE Energy Company** [C]	772,000	956,000	864,000	1,397,000	1,083,000	907,000	55.3%	88.3%	95.3%	71.8%	P. 144-145
Eversource Energy	1,844,900	1,694,100	1,553,900	2,399,300	2,198,200	1,993,300	76.9%	77.1%	78.0%	77.3%	P. 141
Southern Co.	4,714,000	4,518,000	2,579,000	5,826,000	5,370,000	3,698,000	80.9%	84.1%	69.7%	82.5%	P. II-75, II-83, II-90, II-97, II-104, II-251
NorthWestern Corporation	262,169	219,743	238,802	300,455	263,079	275,681	87.3%	83.5%	86.6%	85.8%	P. 1, 2, 3
Alliant Energy Corporation	827,000	805,000	716,000	943,000	928,000	795,000	87.7%	86.7%	90.1%	88.2%	P. 97
Duke Energy [D]	4,223,000	3,929,000	3,850,000	4,742,000	4,397,000	4,246,000	89.1%	89.4%	90.7%	89.7%	P. 134-135
Evergy, Inc.	1,115,200	1,172,200	1,203,900	1,282,400	1,267,200	1,354,900	87.0%	92.5%	88.9%	89.7%	P. 75, 80, 85
Xcel Energy Inc.**	1,686,000	1,631,000	1,478,000	1,771,000	1,736,000	1,597,000	95.2%	94.0%	92.5%	93.9%	P. 80
Ameren Corporation**	1,099,000	1,027,000	913,000	1,152,000	1,074,000	990,000	95.4%	95.6%	92.2%	94.4%	P. 157
Dominion Energy** [E]	1,684,000	1,905,000	1,863,000	1,994,000	1,321,000	3,399,000	84.5%	144.2%	54.8%	94.5%	Dominion 10K P. 91, 99, 197, DESC 10K P. 29
Entergy Corporation*	11,842,454	13,186,845	10,873,995	12,147,412	13,764,237	11,742,896	97.5%	95.8%	92.6%	96.6%	P. 233
American Electric Power Co.	3,605,800	3,515,000	3,255,500	3,556,200	3,482,700	3,411,300	101.4%	100.9%	95.4%	99.3%	P. 59-60, 90
IDACORP, Inc., Utility Ops	313,379	327,170	329,568	313,477	327,178	329,651	99.97%	100.00%	99.97%	100.0%	P. 125
Portland General Electric Co.	396,000	397,000	378,000	396,000	397,000	378,000	100.0%	100.0%	100.0%	100.0%	P. 76
OGE Energy Corp.	651,600	662,500	546,100	650,200	649,500	544,200	100.2%	102.0%	100.3%	100.9%	P. 95-96
Edison International	2,640,000	1,513,000	1,510,000	2,627,000	1,483,000	1,477,000	100.5%	102.0%	102.2%	101.3%	P. 58, 65
Pinnacle West Capital Corp.*	839,931	744,941	818,961	824,640	731,911	805,310	101.9%	101.8%	101.7%	101.8%	P. 94, 105
PPL Corporation [F]	1,731,000	1,586,000	1,515,000	1,630,000	1,274,000	1,424,000	106.2%	124.5%	106.4%	112.4%	P. 73, 80, 86, 92
NextEra Energy [G]	6,597,000	5,294,000	4,516,000	10,237,000	4,081,000	2,913,000	64.4%	129.7%	155.0%	116.4%	P. 60, 65
FirstEnergy Corp.	2,435,000	2,053,000	2,143,000	2,266,000	1,910,000	1,726,000	107.5%	107.5%	124.2%	113.0%	2023 P. 39-40; 2021 P. 33

Excluded, see Notes

Notes

The dollar amounts are operating income unless indicated otherwise

*-Indicates percentage of Operating Revenues

**-Indicates percentage of Net Income

***-Indicates percentage of Segment Profit

A-PSEG's unregulated generation unit had large losses in 2021 and 2022; percentages are not reliable

B-Includes small regulated UNS Energy Gas Operations.

C-DTE Energy 2021 results reflect separation of DTE Midstream in 2021; average is 2022, 2023

D-Duke Energy is electric share of reportable segments; one-time losses affect company totals

E-Dominion reports reflect sales of operating divisions; further sales are planned.

The percentage regulated electricity operations account for of total income is

F-Financial reports do not separate electric and gas operations meaningfully

G-Operating income was erratic, so percentages are not reliable

ROE and ROR Analysis for FirstEnergy
Comparison Group Screening
Operating Income Analysis from Exhibit MFG-13

Docket No. R-2024-3047068
Exhibit MFG-14

Company	S&P Credit Rating	≥ Percent of operating income from regulated electric operations
Alliant Energy Corporation	A-	88.2%
Ameren Corporation	BBB+	94.4%
American Electric Power Co.	BBB+	99.3%
Duke Energy Corporation	BBB+	89.7%
Edison International	BBB	101.3%
Entergy Corporation	BBB+	96.6%
Evergy, Inc.	BBB+	89.7%
Eversource Energy	A-	77.3%
IDACORP, Inc.	BBB	100.0%
NorthWestern Corporation	BBB	85.8%
OGE Energy Corp.	BBB+	100.9%
Pinnacle West Capital Corp.	BBB+	101.8%
Portland General Electric Co.	BBB+	100.0%
Southern Co.	A-	82.5%
Xcel Energy Inc.	BBB+	93.9%

FirstEnergy	BBB+	

Alliant Energy (LNT)		Ameren (AEE)		American Electric Power (AEP)		Duke Energy (DUK)	
Date	Close	Date	Close	Date	Close	Date	Close
5/6/2024	$ 50.50	5/6/2024	$ 73.90	5/6/2024	$ 88.81	5/6/2024	$ 96.07
5/7/2024	$ 51.13	5/7/2024	$ 74.36	5/7/2024	$ 89.87	5/7/2024	$ 96.54
5/8/2024	$ 51.21	5/8/2024	$ 74.23	5/8/2024	$ 90.58	5/8/2024	$ 95.97
5/9/2024	$ 51.70	5/9/2024	$ 74.77	5/9/2024	$ 90.95	5/9/2024	$ 96.12
5/10/2024	$ 51.33	5/10/2024	$ 74.40	5/10/2024	$ 91.61	5/10/2024	$ 95.91
5/13/2024	$ 51.34	5/13/2024	$ 74.47	5/13/2024	$ 91.52	5/13/2024	$ 96.31
5/14/2024	$ 51.36	5/14/2024	$ 74.88	5/14/2024	$ 90.79	5/14/2024	$ 97.32
5/15/2024	$ 51.99	5/15/2024	$ 75.33	5/15/2024	$ 91.97	5/15/2024	$ 95.41
5/16/2024	$ 51.97	5/16/2024	$ 74.90	5/16/2024	$ 92.54	5/16/2024	$ 95.29
5/17/2024	$ 51.97	5/17/2024	$ 74.74	5/17/2024	$ 92.67	5/17/2024	$ 94.90
5/20/2024	$ 51.78	5/20/2024	$ 74.40	5/20/2024	$ 92.59	5/20/2024	$ 94.13
5/21/2024	$ 52.12	5/21/2024	$ 74.56	5/21/2024	$ 92.62	5/21/2024	$ 92.87
5/22/2024	$ 51.17	5/22/2024	$ 73.20	5/22/2024	$ 91.48	5/22/2024	$ 94.50
5/23/2024	$ 50.01	5/23/2024	$ 71.50	5/23/2024	$ 89.28	5/23/2024	$ 95.93
5/24/2024	$ 49.95	5/24/2024	$ 71.34	5/24/2024	$ 88.97	5/24/2024	$ 98.24
5/28/2024	$ 49.87	5/28/2024	$ 71.23	5/28/2024	$ 88.62	5/28/2024	$ 98.12
5/29/2024	$ 49.36	5/29/2024	$ 70.10	5/29/2024	$ 87.47	5/29/2024	$ 98.20
5/30/2024	$ 50.16	5/30/2024	$ 71.51	5/30/2024	$ 88.16	5/30/2024	$ 98.96
5/31/2024	$ 51.49	5/31/2024	$ 73.37	5/31/2024	$ 90.25	5/31/2024	$ 99.03
Mean	$ 51.07	Mean	$ 73.54	Mean	$ 90.57	Mean	$ 96.31

Edison International		Entergy Corporation (ETR)		Evergy, Inc. (EVRG)		Eversource Energy (ES)	
Date	Close	Date	Close	Date	Close	Date	Close
5/6/2024	$ 73.02	5/6/2024	$ 109.02	5/6/2024	$ 53.96	5/6/2024	$ 59.71
5/7/2024	$ 73.89	5/7/2024	$ 110.58	5/7/2024	$ 54.45	5/7/2024	$ 61.17
5/8/2024	$ 73.85	5/8/2024	$ 110.83	5/8/2024	$ 54.57	5/8/2024	$ 61.04
5/9/2024	$ 74.76	5/9/2024	$ 111.48	5/9/2024	$ 55.72	5/9/2024	$ 61.76
5/10/2024	$ 74.89	5/10/2024	$ 111.99	5/10/2024	$ 55.42	5/10/2024	$ 61.92
5/13/2024	$ 74.44	5/13/2024	$ 111.85	5/13/2024	$ 55.74	5/13/2024	$ 61.28
5/14/2024	$ 74.92	5/14/2024	$ 111.30	5/14/2024	$ 55.30	5/14/2024	$ 60.90
5/15/2024	$ 75.72	5/15/2024	$ 112.59	5/15/2024	$ 55.64	5/15/2024	$ 60.53
5/16/2024	$ 75.86	5/16/2024	$ 113.37	5/16/2024	$ 55.64	5/16/2024	$ 61.46
5/17/2024	$ 76.30	5/17/2024	$ 113.03	5/17/2024	$ 55.11	5/17/2024	$ 60.96
5/20/2024	$ 76.10	5/20/2024	$ 112.80	5/20/2024	$ 55.09	5/20/2024	$ 60.78
5/21/2024	$ 76.77	5/21/2024	$ 114.22	5/21/2024	$ 55.63	5/21/2024	$ 61.22
5/22/2024	$ 75.55	5/22/2024	$ 112.70	5/22/2024	$ 54.84	5/22/2024	$ 59.81
5/23/2024	$ 74.25	5/23/2024	$ 109.40	5/23/2024	$ 53.41	5/23/2024	$ 57.53
5/24/2024	$ 74.57	5/24/2024	$ 109.14	5/24/2024	$ 53.43	5/24/2024	$ 57.53
5/28/2024	$ 74.14	5/28/2024	$ 107.53	5/28/2024	$ 53.26	5/28/2024	$ 56.80
5/29/2024	$ 73.35	5/29/2024	$ 106.71	5/29/2024	$ 52.57	5/29/2024	$ 56.77
5/30/2024	$ 74.67	5/30/2024	$ 107.78	5/30/2024	$ 53.29	5/30/2024	$ 57.57
5/31/2024	$ 76.85	5/31/2024	$ 112.49	5/31/2024	$ 54.66	5/31/2024	$ 59.23
Mean	$ 74.94	Mean	$ 110.99	Mean	$ 54.62	Mean	$ 59.89

IDACORP, Inc. (IDA)		NorthWestern Corporation (NWE)		OGE Energy Corp. (OGE)		Pinnacle West Capital Corp	
Date	Close	Date	Close	Date	Close	Date	Close
5/6/2024	$ 96.13	5/6/2024	$ 51.15	5/6/2024	$ 35.57	5/6/2024	$ 76.01
5/7/2024	$ 96.74	5/7/2024	$ 51.26	5/7/2024	$ 35.97	5/7/2024	$ 76.41
5/8/2024	$ 96.82	5/8/2024	$ 51.06	5/8/2024	$ 36.02	5/8/2024	$ 76.63
5/9/2024	$ 97.74	5/9/2024	$ 51.75	5/9/2024	$ 36.45	5/9/2024	$ 77.40
5/10/2024	$ 97.81	5/10/2024	$ 51.77	5/10/2024	$ 36.38	5/10/2024	$ 77.24
5/13/2024	$ 98.12	5/13/2024	$ 51.86	5/13/2024	$ 36.30	5/13/2024	$ 76.96
5/14/2024	$ 97.68	5/14/2024	$ 51.47	5/14/2024	$ 36.37	5/14/2024	$ 77.00
5/15/2024	$ 98.10	5/15/2024	$ 51.86	5/15/2024	$ 36.63	5/15/2024	$ 77.54
5/16/2024	$ 98.96	5/16/2024	$ 52.54	5/16/2024	$ 36.83	5/16/2024	$ 77.82
5/17/2024	$ 98.47	5/17/2024	$ 52.56	5/17/2024	$ 36.96	5/17/2024	$ 78.44
5/20/2024	$ 98.26	5/20/2024	$ 52.85	5/20/2024	$ 36.98	5/20/2024	$ 78.01
5/21/2024	$ 97.47	5/21/2024	$ 52.82	5/21/2024	$ 37.20	5/21/2024	$ 78.62
5/22/2024	$ 97.12	5/22/2024	$ 52.34	5/22/2024	$ 36.57	5/22/2024	$ 77.77
5/23/2024	$ 94.93	5/23/2024	$ 51.17	5/23/2024	$ 35.62	5/23/2024	$ 76.48
5/24/2024	$ 95.61	5/24/2024	$ 51.02	5/24/2024	$ 35.65	5/24/2024	$ 76.82
5/28/2024	$ 93.67	5/28/2024	$ 50.84	5/28/2024	$ 35.45	5/28/2024	$ 76.48
5/29/2024	$ 92.49	5/29/2024	$ 50.09	5/29/2024	$ 34.96	5/29/2024	$ 75.73
5/30/2024	$ 93.09	5/30/2024	$ 50.80	5/30/2024	$ 35.35	5/30/2024	$ 77.02
5/31/2024	$ 95.47	5/31/2024	$ 51.96	5/31/2024	$ 36.30	5/31/2024	$ 78.86
Mean	$ 96.56	Mean	$ 51.64	Mean	$ 36.19	Mean	$ 77.22

Portland General Electric (POR)		Southern Co. (SO)		Xcel Energy Inc. (XEL)	
Date	Close	Date	Close	Date	Close
5/6/2024	$ 44.30	5/6/2024	$ 75.47	5/6/2024	$ 54.36
5/7/2024	$ 44.43	5/7/2024	$ 76.95	5/7/2024	$ 55.02
5/8/2024	$ 44.06	5/8/2024	$ 77.63	5/8/2024	$ 54.93
5/9/2024	$ 44.66	5/9/2024	$ 78.25	5/9/2024	$ 55.24
5/10/2024	$ 44.55	5/10/2024	$ 78.14	5/10/2024	$ 55.46
5/13/2024	$ 44.77	5/13/2024	$ 78.70	5/13/2024	$ 55.83
5/14/2024	$ 44.28	5/14/2024	$ 78.71	5/14/2024	$ 55.56
5/15/2024	$ 44.64	5/15/2024	$ 79.29	5/15/2024	$ 55.79
5/16/2024	$ 45.27	5/16/2024	$ 79.38	5/16/2024	$ 55.85
5/17/2024	$ 44.99	5/17/2024	$ 79.54	5/17/2024	$ 55.52
5/20/2024	$ 44.92	5/20/2024	$ 79.19	5/20/2024	$ 56.07
5/21/2024	$ 45.30	5/21/2024	$ 79.78	5/21/2024	$ 56.74
5/22/2024	$ 44.70	5/22/2024	$ 78.69	5/22/2024	$ 55.52
5/23/2024	$ 43.74	5/23/2024	$ 77.17	5/23/2024	$ 54.05
5/24/2024	$ 43.72	5/24/2024	$ 77.75	5/24/2024	$ 53.72
5/28/2024	$ 43.40	5/28/2024	$ 77.54	5/28/2024	$ 53.74
5/29/2024	$ 42.76	5/29/2024	$ 77.20	5/29/2024	$ 53.30
5/30/2024	$ 43.34	5/30/2024	$ 78.08	5/30/2024	$ 54.32

5/31/2024	$	44.56	5/31/2024	$	80.14	5/31/2024	$	55.45
Mean	$	44.34	Mean	$	78.29	Mean	$	55.08

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
Comparison Group **Exhibit MFG-16**
Dividends

Name	Value Line	Zacks	Highest
Alliant Energy Corporation	$ 1.92	$ 1.92	$ 1.92
Ameren Corporation	$ 2.68	$ 2.68	$ 2.68
American Electric Power Co.	$ 3.52	$ 3.52	$ 3.52
Duke Energy Corporation	$ 4.10	$ 4.10	$ 4.10
Edison International	$ 3.12	$ 3.12	$ 3.12
Entergy Corporation	$ 4.52	$ 4.52	$ 4.52
Evergy, Inc.	$ 2.57	$ 2.57	$ 2.57
Eversource Energy	$ 2.86	$ 2.86	$ 2.86
IDACORP, Inc.	$ 3.32	$ 3.32	$ 3.32
NorthWestern Corporation	$ 2.60	$ 2.60	$ 2.60
OGE Energy Corp.	$ 1.67	$ 1.67	$ 1.67
Pinnacle West Capital Corp.	$ 3.52	$ 3.52	$ 3.52
Portland General Electric Co.	$ 1.90	$ 1.90	$ 1.90
Southern Co.	$ 2.88	$ 2.88	$ 2.88
Xcel Energy Inc.	$ 2.19	$ 2.19	$ 2.19

Value Line dividends taken from April 19, 2024; May 10, 2024; June 7, 2024 Reports

Zacks dividends taken from website on June 13, 2024

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
Discounted Cash Flow Model Analysis **Exhibit MFG-17, Schedule 1**
Common Equity Share Prices: May 6, 2024-May 31, 2024
Value Line DPS Growth-Rate Estimates--April 2024-June

	A	B	C	D	E	F	G
Company Name	**Value Line DPS Growth Rates (%)**	**Average of Closing Prices**	**Annualized Dividend**	**Dividend Yield (Rate/Price)**	**Expected Dividend Yield**	**Required Rate of Return on Equity**	**J > 7.04% Mean of Value Line and IBES Low-End Tests**
Alliant Energy Corporation	6.00%	$ 51.07	$ 1.92	3.76%	3.98%	9.98%	Yes
Ameren Corporation	6.50%	$ 73.54	$ 2.68	3.64%	3.88%	10.38%	Yes
American Electric Power Co.	5.50%	$ 90.57	$ 3.52	3.89%	4.10%	9.60%	Yes
Duke Energy Corporation	2.00%	$ 96.31	$ 4.10	4.26%	4.34%	6.34%	No
Edison International	5.50%	$ 74.94	$ 3.12	4.16%	4.39%	9.89%	Yes
Entergy Corporation	3.50%	$ 110.99	$ 4.52	4.07%	4.21%	7.71%	Yes
Evergy, Inc.	7.00%	$ 54.62	$ 2.57	4.71%	5.03%	12.03%	Yes
Eversource Energy	6.00%	$ 59.89	$ 2.86	4.78%	5.06%	11.06%	Yes
IDACORP, Inc.	5.50%	$ 96.56	$ 1.90	1.97%	2.08%	7.58%	Yes
NorthWestern Corporation	2.00%	$ 51.64	$ 2.60	5.03%	5.14%	7.14%	Yes
OGE Energy Corp.	3.00%	$ 36.19	$ 1.67	4.62%	4.76%	7.76%	Yes
Pinnacle West Capital Corp.	1.50%	$ 77.22	$ 3.52	4.56%	4.63%	6.13%	No
Portland General Electric Co.	5.50%	$ 44.34	$ 1.90	4.29%	4.52%	10.02%	Yes
Southern Co.	3.50%	$ 78.29	$ 2.88	3.68%	3.81%	7.31%	Yes
Xcel Energy Inc.	5.50%	$ 55.08	$ 2.19	3.98%	4.19%	9.69%	Yes

Excluded

Mean 9.24%
Median 9.69%

A: Value Line Investment Survey reports: April 19, 2024; May 10, 2024; June 7, 2024
B: Yahoo! Finance website: May 6, 2024-May 31, 2024. See Exhibit MFG-15.
C: Value Line Investment report, April 19, 2024; May 10, 2024; June 7, 2024. See Exhibit MFG-16.
G: See Exhibit MFG-18, Schedule 5.

D: C/B E: D*(1+A) F: A + E

Table VI.G6.—Selected Economic Variables, Calendar Years 2022-2095
[GDP and taxable payroll in billions]

Calendar year	Adjusted CPI	Average wage index	Taxable payroll	Gross domestic product	Compound new-issue interest factor	Compound effective trust-fund interest factor
Intermediate:						
2022	96.15	$63,467.98	$9,069	$25,422	0.9711	0.9884
2023	100.00	66,147.17	9,552	26,592	1.0000	1.0117
2024	102.53	68,627.58	9,986	27,655	1.0357	1.0356
2025	104.99	71,411.99	10,465	28,902	1.0727	1.0602
2026	107.51	74,348.48	10,944	30,177	1.1112	1.0862
2027	110.09	77,393.67	11,443	31,478	1.1530	1.1140
2028	112.73	80,510.73	11,934	32,778	1.1985	1.1442
2029	115.44	83,757.03	12,438	34,125	1.2492	1.1768
2030	118.21	87,106.49	12,954	35,521	1.3051	1.2123
2031	121.04	90,574.48	13,492	36,976	1.3656	1.2512
2032	123.95	93,995.33	14,023	38,487	1.4295	1.2946
2035	133.09	104,726.27	15,730	43,392	1.6429	1.4693
2040	149.85	125,312.66	18,992	52,850	2.0725	1.8502
2045	168.71	149,423.47	22,925	64,333	2.6144	2.3337
2050	189.95	177,750.26	27,736	78,438	3.2980	2.9438
2055	213.87	211,432.09	33,623	95,785	4.1603	3.7136
2060	240.79	251,610.19	40,795	116,988	5.2481	4.6846
2065	271.11	299,758.28	49,472	142,731	6.6204	5.9095
2070	305.24	357,187.25	59,924	173,850	8.3514	7.4546
2075	343.67	425,523.96	72,602	211,710	10.5351	9.4038
2080	386.94	506,962.67	88,194	258,358	13.2897	11.8627
2085	435.65	603,863.51	107,502	316,227	16.7646	14.9644
2090	490.50	719,124.11	131,330	387,813	21.1481	18.8772
2095	552.26	856,091.73	160,374	475,384	26.6778	23.8131
2100	621.79	1,019,162.94	195,457	581,611	33.6533	30.0396

(Intermediate economy performance case) **Growth Rate 2029-2050*** 4.04%

Source: Social Security 2023 Trustees' Report * = (2050/2030)^(1/20) - 1

ROE and ROR Analysis for FirstEnergy
U.S Energy Information Administration Long-Term Growth Rate

Docket No. R-2024-3047068
Exhibit MFG-17
Schedule 3

Source: U.S. Energy Information Administration, Annual Energy Outlook 2023

Table 20. Macroeconomic Indicators

(Billions 2012 chain-weighted dollars unless otherwise noted)

	2024	2025	2026	2027	2028	2029	2030
Real Gross Domestic Product							
Reference case	20,095	20,409	20,841	21,273	21,681	22,052	22,392
Price Indices							
GDP Chain-type Price Index (2012=1.000)							
Reference case	1.35	1.38	1.41	1.44	1.47	1.51	1.54

	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Real Gross Domestic Product										
Reference case	22,742	23,153	23,604	24,055	24,511	24,996	25,507	26,032	26,566	27,149
Price Indices										
GDP Chain-type Price Index (2012=1.000)										
Reference case	1.58	1.61	1.65	1.69	1.73	1.77	1.81	1.85	1.89	1.93

	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050		Growth Rate 2030-2050
Real Gross Domestic Product												
Reference case	27,734	28,324	28,927	29,527	30,130	30,748	31,389	32,040	32,699	33,405		2.02%
Price Indices												
GDP Chain-type Price Index (2012=1.000)												
Reference case	1.97	2.02	2.07	2.11	2.16	2.21	2.27	2.32	2.38	2.43	Plus	2.31%

Total 2030-2050 Growth Rate 4.33%

growth than to insert a constant growth rate into the plain vanilla DCF equation. The practical challenge is to establish a reasonable growth path for future dividends. As previously discussed, an excellent starting point is security analysts' earnings growth forecasts (available from IBES, Zacks, Reuters, First Call) as a proxy for dividend forecasts. These forecasts are typically for the next five years. From the standpoint of the DCF model that extends into perpetuity, this forecasting horizon may be too short. For example, it is quite possible that a company's dividends can grow faster than the general economy for five years, but it is quite implausible for such growth to continue into perpetuity. The two-stage DCF model is based on the premise that investors expect the growth rate for the utilities to be equal to the company-specific growth rates for the next 5 years, let us say, (Stage 1 Growth), and to converge to an expected steady-state long-run rate of growth from year 6 onward (Stage 2 Growth). For example, it is quite plausible that near-term DCF growth estimates for a given company are unduly high and unsustainable over long periods, and that such growth rates are expected to decline toward a lower long-run level over time. Another example of this situation is that of companies that operate in a relatively undeveloped industry (e.g. wholesale power generation) or companies that are experiencing very high growth rates. Here again, the assumption of a constant perpetual growth rate may not be reasonable.

Blended Growth Approach

One way to account for the two stages of growth is to modify the single-stage DCF model by specifying the growth rate as a weighted average of short-term and long-term growth rates. The blended growth rate is calculated as a weighted average giving two-thirds weight to the analysts' five-year growth projections (Zacks, IBES, etc.) and one-third to historical long-term growth of the economy as a whole and/or the long-range projections of growth in Gross Domestic Product (GDP) projected for the very long term. FERC has adopted such a method in the past for determining the return on equity for gas and oil utilities.

To illustrate, two-stage DCF estimates for a group of widely traded dividend-paying diversified natural gas producers are shown on Table 9-5. Column 1 shows the spot dividend yield for each company, Column 2 shows the analyst consensus growth forecast for the next five years for each company, and column 3 shows the long-range GDP forecast of 6.5% for the U.S. economy at that time. Column 4 computes the weighed average growth, giving 2/3 weight to column 1 and 1/3 weight to column 2. Averages are shown at the bottom of the table. Adding the average blended growth rate of 9.02% to the average expected dividend yield of 2.83% shown at the bottom of Column 6 produces an estimate of equity costs of 11.85% for the group, unadjusted for flotation costs. Allowance for flotation costs to the results of Column 7 brings the return on equity estimate to 12.00%, shown in Column 7. Note

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
Discounted Cash Flow Model Analysis **Exhibit MFG-17**
Common Equity Share Prices: May 6, 2024-May 31, 2024 **Schedule 5**

Multistage DCF with Zacks, Yahoo! Finance, and Value Line EPS Growth-Rate Estimates; 2023 SSA and 2023 EIA long-term growth rates

	A	B	C	D	E
Company Name	**Value Line DPS Growth Rates (%)**	**Average of Closing Prices**	**Annualized Dividend**	**Dividend Yield (Rate/Price)**	**Expected Dividend Yield**
Alliant Energy Corporation	6.00%	$ 51.07	$ 1.92	3.76%	3.98%
Ameren Corporation	6.50%	$ 73.54	$ 2.68	3.64%	3.88%
American Electric Power Co.	5.50%	$ 90.57	$ 3.52	3.89%	4.10%
Duke Energy Corporation	2.00%	$ 96.31	$ 4.10	4.26%	4.34%
Edison International	5.50%	$ 74.94	$ 3.12	4.16%	4.39%
Entergy Corporation	3.50%	$ 110.99	$ 4.52	4.07%	4.21%
Evergy, Inc.	7.00%	$ 54.62	$ 2.57	4.71%	5.03%
Eversource Energy	6.00%	$ 59.89	$ 2.86	4.78%	5.06%
IDACORP, Inc.	5.50%	$ 96.56	$ 1.90	1.97%	2.08%
NorthWestern Corporation	2.00%	$ 51.64	$ 2.60	5.03%	5.14%
OGE Energy Corp.	3.00%	$ 36.19	$ 1.67	4.62%	4.76%
Pinnacle West Capital Corp.	1.50%	$ 77.22	$ 3.52	4.56%	4.63%
Portland General Electric Co.	5.50%	$ 44.34	$ 1.90	4.29%	4.52%
Southern Co.	3.50%	$ 78.29	$ 2.88	3.68%	3.81%
Xcel Energy Inc.	5.50%	$ 55.08	$ 2.19	3.98%	4.19%

	F	G	H	I	J	K	L	M
Company Name	**SSA Long-Run Projected EPS Growth Rate = 4.04%**	**SSA Long-Run Weighted EPS Growth Rate 4.04%**	**SSA Weighted Cost of Equity, Long-Run Rate**	**EIA Long-Run Projected EPS Growth Rate = 4.33%**	**Weighted Long-Run Projected EPS Growth Rate = 4.33%**	**EIA Weighted Cost of Equity, Long-Run Rate**	**Multistage Mean Cost of Equity**	**Exceeds 7.04% Mean of Value Line and IBES Low-End Tests**
Alliant Energy Corporation	4.04%	5.35%	9.33%	4.33%	5.44%	9.43%	9.38%	Yes
Ameren Corporation	4.04%	5.68%	9.56%	4.33%	5.78%	9.66%	9.61%	Yes
American Electric Power Co.	4.04%	5.01%	9.11%	4.33%	5.11%	9.21%	9.16%	Yes
Duke Energy Corporation	4.04%	2.68%	7.02%	4.33%	2.78%	7.12%	7.07%	Yes
Edison International	4.04%	5.01%	9.41%	4.33%	5.11%	9.50%	9.45%	Yes
Entergy Corporation	4.04%	3.68%	7.89%	4.33%	3.78%	7.99%	7.94%	Yes
Evergy, Inc.	4.04%	6.01%	11.05%	4.33%	6.11%	11.14%	11.10%	Yes
Eversource Energy	4.04%	5.35%	10.41%	4.33%	5.44%	10.51%	10.46%	Yes
IDACORP, Inc.	4.04%	5.01%	7.09%	4.33%	5.11%	7.19%	7.14%	Yes
NorthWestern Corporation	4.04%	2.68%	7.82%	4.33%	2.78%	7.91%	7.86%	Yes
OGE Energy Corp.	4.04%	3.35%	8.11%	4.33%	3.44%	8.20%	8.16%	Yes
Pinnacle West Capital Corp.	4.04%	2.35%	6.97%	4.33%	2.44%	7.07%	7.02%	No
Portland General Electric Co.	4.04%	5.01%	9.53%	4.33%	5.11%	9.63%	9.58%	Yes
Southern Co.	4.04%	3.68%	7.49%	4.33%	3.78%	7.58%	7.54%	Yes
Xcel Energy Inc.	4.04%	5.01%	9.21%	4.33%	5.11%	9.30%	9.26%	Yes
				Excluded		**Mean**	8.84%	
						Median	9.21%	

A: Value Line Investment Survey reports: April 19, 2024; May 10, 2024; June 7, 2024

B: Yahoo! Finance website: May 6, 2024-May 31, 2024. See Exhibit MFG-15.

C: Value Line Investment report, April 19, 2024; May 10, 2024; June 7, 2024. See Exhibit MFG-16.

F: U.S. Social Security Administration, The 2023 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, (OASDI Trustees Report), Table VIG6. See Exhibit MFG-17, Schedule 2.

I: U.S. Energy Information Administration, *Annual Energy Outlook 2022, Macroeconomic Indicators* (Real GDP Growth + GDP Chain-Type Index Increase 2022-2050), https://www.eia.gov/analysis/projection-data.php#annualproj. See Exhibit MFG-17, Schedule 3.

M: Moody's BAA Corporate Bonds Index plus 20 percent of CAPM risk premium. See Exhibit MFG-18, Schedule 5.

D: = F/E E: = D *(1+A)) G: = 2/3*A + 1/3*F H: = E + G J: = 2/3*A + 1/3*J K: = E + G L: = (H + K)/2

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
CAPM Analysis **Exhibit MFG-18, Schedule 1**
Risk-Free Rate Analysis

Daily Treasury Yield Curve Rates

May 6, 2024-May 31, 20-24, 2024

Date	1 Mo	2 Mo	3 Mo	4 Mo	6 Mo	1 Yr	2 Yr	3 Yr	5 Yr	7 Yr	10 Yr	20 Yr	30 Yr
5/6/2024	5.51	5.48	5.45	5.50	5.42	5.12	4.82	4.64	4.48	4.48	4.49	4.73	4.64
5/7/2024	5.51	5.48	5.45	5.51	5.41	5.13	4.82	4.60	4.48	4.47	4.47	4.70	4.61
5/8/2024	5.51	5.47	5.45	5.50	5.41	5.13	4.84	4.63	4.50	4.49	4.48	4.73	4.64
5/9/2024	5.51	5.48	5.46	5.50	5.41	5.12	4.80	4.60	4.47	4.46	4.45	4.70	4.6
5/10/2024	5.51	5.47	5.47	5.51	5.43	5.17	4.87	4.65	4.52	4.51	4.50	4.74	4.64
5/13/2024	5.50	5.47	5.45	5.51	5.43	5.16	4.85	4.66	4.50	4.49	4.48	4.72	4.63
5/14/2024	5.50	5.47	5.44	5.51	5.43	5.16	4.81	4.62	4.46	4.45	4.45	4.69	4.49
5/15/2024	5.49	5.46	5.45	5.50	5.40	5.10	4.73	4.51	4.35	4.35	4.36	4.61	4.52
5/16/2024	5.51	5.47	5.45	5.53	5.41	5.13	4.78	4.58	4.40	4.39	4.38	4.62	4.52
5/17/2024	5.50	5.47	5.46	5.50	5.41	5.14	4.83	4.60	4.44	4.43	4.42	4.66	4.56
5/20/2024	5.50	5.47	5.45	5.51	5.43	5.15	4.82	4.62	4.46	4.44	4.44	4.68	4.58
5/21/2024	5.50	5.47	5.45	5.51	5.42	5.14	4.82	4.61	4.43	4.42	4.41	4.65	4.55
5/22/2024	5.49	5.48	5.45	5.50	5.43	5.16	4.86	4.64	4.47	4.44	4.43	4.63	4.55
5/23/2024	5.51	5.48	5.46	5.51	5.44	5.20	4.91	4.71	4.52	4.50	4.47	4.67	4.58
5/24/2024	5.56	5.53	5.46	5.51	5.44	5.21	4.93	4.71	4.53	4.49	4.46	4.65	4.57
5/28/2024	5.50	5.48	5.46	5.51	5.43	5.21	4.94	4.75	4.56	4.56	4.54	4.74	4.66
5/29/2024	5.50	5.48	5.46	5.47	5.43	5.22	4.96	4.79	4.63	4.63	4.61	4.82	4.74
5/30/2024	5.48	5.48	5.46	5.48	5.42	5.19	4.92	4.74	4.57	4.57	4.55	4.76	4.69
5/31/2024	5.48	5.48	5.46	5.46	5.42	5.18	4.89	4.69	4.52	4.52	4.51	4.73	4.65
											Mean		4.60

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
CAPM Analysis **Exhibit MFG-18, Schedule 2**
Beta calculation for Comparison Group
Value Line Investment Survey
Betas taken from reports of April 19, 2024; May 10, 2024; June 7, 2024

Company Name	Value Line Betas--Comparison Group
Alliant Energy Corporation	0.90
Ameren Corporation	0.90
American Electric Power Co.	0.85
Duke Energy Corporation	0.90
Edison International	1.00
Entergy Corporation	1.00
Evergy, Inc.	0.95
Eversource Energy	0.95
IDACORP, Inc.	0.85
NorthWestern Corporation	0.95
OGE Energy Corp.	1.05
Pinnacle West Capital Corp.	0.95
Portland General Electric Co.	0.90
Southern Co.	0.95
Xcel Energy Inc.	0.85

ROE and ROR Analysis for FirstEnergy | **Docket No. R-2024-3047068**
CAPM Analysis | **Exhibit MFG-18**
Moody's 10-Year Baa Corporate Bonds Index May 6-May 31, 2024 | **Schedule 3**
Downloaded June 14, 2024

S&P Global
Market Intelligence

Chart Builder

Entities: Moodys Bond Yield Avg - BAA Rated Corporates
Metrics: Index Value

SERIES NAME	CATEGORY	HIGH	LOW	AVERAGE
Moodys Bond Yield Avg - BAA Rated Corporates-Index Value (Daily)	**Market Data**	**6.08**	**5.85**	**5.94**

Pricing Date	Moodys Bond Yield Avg - BAA Rated Corporates-Index Value (Daily)
5/31/2024	5.97
5/30/2024	6.01
5/29/2024	6.08
5/28/2024	5.99
5/24/2024	5.92
5/23/2024	5.92
5/22/2024	5.89
5/21/2024	5.89
5/20/2024	5.91
5/17/2024	5.90
5/16/2024	5.85
5/15/2024	5.85
5/14/2024	5.93
5/13/2024	5.96
5/10/2024	5.98
5/9/2024	5.93
5/8/2024	5.95
5/7/2024	5.92
5/6/2024	5.96
Mean	5.94

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
CAPM ROE Analysis--Value Line **Exhibit MFG-18**
Calculation for Proxy Group **Schedule 4**

	A	B	C	D	E	F
	Rf	**MRP**	**Beta**	**RP**	**CAPM ROE**	**Filtered Results**
Alliant Energy Corporation	4.60%	5.50%	0.90	4.95%	9.55%	9.55%
Ameren Corporation	4.60%	5.50%	0.90	4.95%	9.55%	9.55%
American Electric Power Co.	4.60%	5.50%	0.85	4.68%	9.28%	9.28%
Duke Energy Corporation	4.60%	5.50%	0.90	4.95%	9.55%	9.55%
Edison International	4.60%	5.50%	1.00	5.50%	10.10%	10.10%
Entergy Corporation	4.60%	5.50%	1.00	5.50%	10.10%	10.10%
Evergy, Inc.	4.60%	5.50%	0.95	5.23%	9.83%	9.83%
Eversource Energy	4.60%	5.50%	0.95	5.23%	9.83%	9.83%
IDACORP, Inc.	4.60%	5.50%	0.85	4.68%	9.28%	9.28%
NorthWestern Corporation	4.60%	5.50%	0.95	5.23%	9.83%	9.83%
OGE Energy Corp.	4.60%	5.50%	1.05	5.78%	10.38%	10.38%
Pinnacle West Capital Corp.	4.60%	5.50%	0.95	5.23%	9.83%	9.83%
Portland General Electric Co.	4.60%	5.50%	0.90	4.95%	9.55%	9.55%
Southern Co.	4.60%	5.50%	0.95	5.23%	9.83%	9.83%
Xcel Energy Inc.	4.60%	5.50%	0.85	4.68%	9.28%	9.28%
				Mean	9.72%	9.72%
				Median	9.83%	9.83%

A: MFG-18, Sch 1
B: Kroll (Duff & Phelps), 6-8-2023□
C: MFG-18 Sch 2

D: B * C
E: B + E
F: Low-end test < Column E < High-end test

Low-End Test:	Moody's 10-Year Baa Corporate Bond Index, MFG-18, Schedule 3	5.94%
	CAPM Risk Premium, Column B	5.50%
	20 percent of CAPM risk premium	1.10%
	Moody's 10-Year Baa Corporate Bond Index + 20 percent of CAPM risk	7.04%

High-End Test:	Proxy Group median, Column E	9.83%
	200 percent of Proxy Group median	19.65%

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
CAPM ROE Analysis **Exhibit MFG-18**
Low-End Tests **Schedule 5**

Low-End Test:	Moody's 10-Year Baa Corporate Bond Index, S&P Global	5.94%
	CAPM Risk Premium, Value Line, MFG-18, Schedule 7	5.50%
	20 percent of CAPM risk premium	1.10%
	Moody's 10-Year Baa Public Corporate Bond Index + 20 percent of CAPM risk premium	7.04%

ROE and ROR Analysis for FirstEnergy **Docket No. R-2024-3047068**
Summary of Authorized ROEs in Electric Rate Cases **Exhibit MFG-19**
January 1, 2021-December 31, 2023
https://www.capitaliq.spglobal.com/web/client?auth=inherit#industry/pastRateCases?Type=1

S&P Capital IQ PRO

Rate Case History (Past Rate Cases)
List: None
Company List: All
States: All
Years: 2021, 2022, 2023

2021

State	Company	Docket	Rate Case Service Type	Case Type	Date	Decision Type	Return on Equity (%)	Common Equity to Total Capital (%)
New Mexico	Southwestern Public Svc Co.	C-20-00238-UT	Electric	Vertically Integrated	1/4/2021	Settled	9.35	54.72
Florida	Florida Power & Light Co.	D-20210015-EI	Electric	Vertically Integrated	1/11/2021	Settled	10.60	NA
Florida	Duke Energy Florida LLC	D-20210016-EI	Electric	Vertically Integrated	1/14/2021	Settled	9.85	44.84
Maine	Versant Power	D-2020-00316	Electric	Distribution	1/19/2021	Fully Litigated	9.35	49.00
Idaho	Avista Corp.	C-AVU-E-21-01	Electric	Vertically Integrated	1/29/2021	Settled	9.40	50.00
New York	Orange & Rockland Utlts Inc.	C-21-E-0074	Electric	Distribution	1/29/2021	Settled	9.20	48.00
Florida	Tampa Electric Company	D-20210034-EI	Electric	Vertically Integrated	2/1/2021	Settled	9.95	45.07
Pennsylvania	UGI Utilities Inc.	D-R-2021-3023618	Electric	Distribution	2/8/2021	Settled	NA	NA
Texas	Southwestern Public Svc Co.	D-51802	Electric	Vertically Integrated	2/8/2021	Settled	NA	NA
Michigan	Consumers Energy Co.	C-U-20963	Electric	Vertically Integrated	3/1/2021	Fully Litigated	9.90	41.84
Wisconsin	Wisconsin Electric Power Co.	D-5-AF-107 (WEP-Elec)	Electric	Vertically Integrated	3/30/2021	NA	NA	NA
Wisconsin	Wisconsin Public Service Corp.	D-5-AF-107 (Elec)	Electric	Vertically Integrated	3/30/2021	NA	NA	NA
Missouri	Union Electric Co.	C-ER-2021-0240	Electric	Vertically Integrated	3/31/2021	Settled	NA	NA
Pennsylvania	PECO Energy Co	D-R-2021-3024601	Electric	Distribution	3/31/2021	Settled	NA	NA
Virginia	Virginia Electric & Power Co.	C-PUR-2021-00058	Electric	Vertically Integrated	3/31/2021	Settled	9.35	51.92
New Hampshire	Unitil Energy Systems Inc.	D-DE-21-030	Electric	Distribution	4/2/2021	Settled	9.20	52.00
Pennsylvania	Duquesne Light Co.	D-R-2021-3024750	Electric	Distribution	4/16/2021	Settled	NA	NA
Oklahoma	Public Service Co. of OK	Ca-PUD202100055	Electric	Vertically Integrated	4/30/2021	Settled	9.40	NA
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-124 (Elec)	Electric	Vertically Integrated	5/3/2021	Settled	9.80	55.00
Wisconsin	Wisconsin Power and Light Co	D-6680-UR-123 (Elec)	Electric	Vertically Integrated	5/5/2021	Settled	10.00	52.50
New Jersey	Rockland Electric Company	D-ER21050823	Electric	Distribution	5/21/2021	Settled	9.60	48.51
Idaho	PacifiCorp	C-PAC-E-21-07	Electric	Vertically Integrated	5/27/2021	Settled	NA	NA
California	Liberty Utilities (CalPeco Ele	A-21-05-017	Electric	Vertically Integrated	5/28/2021	Fully Litigated	10.00	52.50
Kansas	The Empire District Electric C	D-21-EPDE-444-RTS	Electric	Vertically Integrated	5/28/2021	Settled	NA	NA
Missouri	The Empire District Electric C	C-ER-2021-0312	Electric	Vertically Integrated	5/28/2021	Settled	NA	NA
Texas	El Paso Electric Co.	D-52195	Electric	Vertically Integrated	6/1/2021	Settled	9.35	51.00
Vermont	Green Mountain Power Corp.	21-1963-TF	Electric	Vertically Integrated	6/1/2021	Fully Litigated	8.57	50.42
Massachusetts	Massachusetts Electric Co.	DPU 21-74	Electric	Distribution	6/15/2021	Fully Litigated	NA	NA
California	Pacific Gas and Electric Co.	A-21-06-021 (Elec)	Electric	Vertically Integrated	6/30/2021	Fully Litigated	NA	NA
Indiana	Indiana Michigan Power Co.	Ca-45576	Electric	Vertically Integrated	7/1/2021	Settled	9.70	40.70

Colorado	Public Service Co. of CO	D-21AL-0317E	Electric	Vertically Integrated	7/2/2021	Settled	9.30	55.69
Wisconsin	Northern States Power Co.	D-4220-UR-125 (Elec)	Electric	Vertically Integrated	7/2/2021	Settled	10.00	52.50
Arkansas*	Entergy Arkansas LLC	D-16-036-FR (2021 review)	Electric	Vertically Integrated	7/7/2021	Settled	9.65	37.75
Oregon	Portland General Electric Co.	D-UE-394	Electric	Vertically Integrated	7/9/2021	Settled	9.50	50.00
Arkansas*	Co	D-21-070-U	Electric	Vertically Integrated	7/23/2021	Fully Litigated	9.50	44.54
California	Pacific Gas and Electric Co.	A-21-08-015	Electric	Vertically Integrated	8/23/2021	Fully Litigated	10.25	52.00
California	San Diego Gas & Electric Co.	A-21-08-014 (Elec)	Electric	Vertically Integrated	8/23/2021	Fully Litigated	10.20	52.00
California	Southern California Edison Co.	A-21-08-013	Electric	Vertically Integrated	8/23/2021	Fully Litigated	10.30	52.00
Virginia	Kentucky Utilities Co.	C-PUR-2021-00171	Electric	Vertically Integrated	8/31/2021	Settled	NA	NA
Maryland	Delmarva Power & Light Co.	C-9670	Electric	Distribution	9/1/2021	Settled	NA	NA
Massachusetts	NSTAR Electric Co.	DPU 21-106	Electric	Distribution	9/15/2021	Fully Litigated	NA	NA
Arkansas*	Oklahoma Gas and Electric Co.	D-18-046-FR (2021 update)	Electric	Vertically Integrated	10/1/2021	Settled	NA	37.95
Ohio	Duke Energy Ohio Inc.	C-21-0887-EL-AIR	Electric	Distribution	10/1/2021	Settled	9.50	50.50
Minnesota	Northern States Power Co.	D-E-002/GR-21-630	Electric	Vertically Integrated	10/25/2021	Fully Litigated	9.25	52.50
Minnesota	Minnesota Power Entrprs Inc.	D-E-015/GR-21-335	Electric	Vertically Integrated	11/1/2021	Fully Litigated	9.65	52.50
Tennessee	Kingsport Power Company	D-21-00107	Electric	Vertically Integrated	11/17/2021	Settled	9.50	48.90
Oklahoma	Oklahoma Gas and Electric Co.	Ca-PUD202100164	Electric	Vertically Integrated	12/30/2021	Settled	9.50	53.37
						Mean	**9.63**	**50.37**
						Median	**9.50**	**51.92**
						Range	**8.57-10.60**	**41.84-55.69**
							n = 31	**n = 27**

*-Arkansas capital structures include extra elements. The cases are not included in the mean, median or range calculations.

2022

State	Company	Docket	Rate Case Service Type	Case Type	Date	Decision Type	Return on Equity (%)	Common Equity to Total Capital (%)
Missouri	Evergy Missouri West	C-ER-2022-0130	Electric	Vertically Integrated	1/7/2022	Settled	NA	NA
Massachusetts	NSTAR Electric Co.	DPU 22-22	Electric	Distribution	1/14/2022	Fully Litigated	9.80	53.21
Michigan	DTE Electric Co.	C-U-20836	Electric	Vertically Integrated	1/18/2022	Fully Litigated	9.90	39.62
Vermont	Green Mountain Power Corp.	C-22-0175-TF	Electric	Vertically Integrated	1/18/2022	Fully Litigated	8.57	49.98
Washington	Avista Corp.	D-UE-220053	Electric	Vertically Integrated	1/21/2022	Settled	NA	NA
New York	Consolidated Edison Company	C-22-E-0064	Electric	Distribution	1/28/2022	Settled	9.25	48.00
Washington	Puget Sound Energy Inc.	D-UE-220066	Electric	Vertically Integrated	1/31/2022	Settled	9.40	49.00
Oklahoma	The Empire District Electric C	Ca-PUD202100163	Electric	Vertically Integrated	2/28/2022	Settled	9.30	NA
Oregon	PacifiCorp	D-UE-399	Electric	Vertically Integrated	3/1/2022	Settled	9.50	50.00
California	Pacific Gas and Electric Co.	A-22-04-008	Electric	Vertically Integrated	4/20/2022	Fully Litigated	10.00	52.00
California	San Diego Gas & Electric Co.	A-22-04-012	Electric	Vertically Integrated	4/20/2022	Fully Litigated	9.95	52.00
California	Southern California Edison Co.	A-22-04-009	Electric	Vertically Integrated	4/20/2022	Fully Litigated	10.05	52.00
Michigan	Consumers Energy Co.	C-U-21224	Electric	Vertically Integrated	4/25/2022	Settled	9.90	NA
Wisconsin	Wisconsin Electric Power Co.	D-5-UR-110 (WEP-Elec)	Electric	Vertically Integrated	4/28/2022	Fully Litigated	9.80	58.22
Wisconsin	Wisconsin Public Service Corp.	D-6690-UR-127 (Elec)	Electric	Vertically Integrated	4/28/2022	Fully Litigated	9.80	53.40
Texas	Oncor Electric Delivery Co.	D-53601	Electric	Distribution	5/13/2022	Fully Litigated	9.70	42.50
North Dakota	MDU Resources Group	C-PU-22-194	Electric	Vertically Integrated	5/16/2022	Settled	9.75	50.81
Maryland	Delmarva Power & Light Co.	C-9681	Electric	Distribution	5/19/2022	Settled	9.60	50.50
New York	NY State Electric & Gas Corp.	C-22-E-0317	Electric	Distribution	5/26/2022	Settled	9.20	48.00
New York	Rochester Gas & Electric Corp.	C-22-E-0319	Electric	Distribution	5/26/2022	Settled	9.20	48.00
Wyoming	Cheyenne Light Fuel Power Co.	D-20003-214-ER-22	Electric	Vertically Integrated	6/1/2022	Settled	9.75	52.00

Nevada	Sierra Pacific Power Co.	D-22-06014	Electric	Vertically Integrated	6/6/2022	Fully Litigated	9.56	52.40
Arizona	Tucson Electric Power Co.	D-E-01933A-22-0107	Electric	Vertically Integrated	6/17/2022	Fully Litigated	9.55	54.32
Massachusetts	Massachusetts Electric Co.	DPU 22-73	Electric	Distribution	6/17/2022	Fully Litigated	NA	NA
Georgia	Georgia Power Co.	D-44280	Electric	Vertically Integrated	6/24/2022	Settled	10.50	56.00
South Dakota	Northern States Power Co.	D-EL22-017	Electric	Vertically Integrated	6/30/2022	Settled	NA	NA
Texas	Entergy Texas Inc.	D-53719	Electric	Vertically Integrated	7/1/2022	Settled	9.57	51.21
Arkansas*	Entergy Arkansas LLC	D-16-036-FR (2022 review)	Electric	Vertically Integrated	7/7/2022	Settled	NA	37.77
Alaska	Alaska Electric Light Power	D-U-22-078	Electric	Vertically Integrated	7/18/2022	Fully Litigated	11.45	60.70
Missouri	Union Electric Co.	C-ER-2022-0337	Electric	Vertically Integrated	8/1/2022	Settled	NA	NA
Montana	NorthWestern Energy Group	D-2022-7-78 (elec)	Electric	Vertically Integrated	8/8/2022	Settled	9.65	48.02
Maine	Central Maine Power Co.	D-2022-00152	Electric	Distribution	8/11/2022	Settled	9.35	50.00
Florida	Duke Energy Florida LLC	D-20220143-EI	Electric	Vertically Integrated	8/12/2022	Settled	10.10	NA
Florida***	Florida Power & Light Co.	20210015 - ROE trigger	Electric	Vertically Integrated	8/23/2022	Settled	10.80	NA
South Carolina	Duke Energy Progress LLC	D-2022-254-E	Electric	Vertically Integrated	9/1/2022	Settled	9.60	52.43
Michigan	Upper Peninsula Power Co.	C-U-21286	Electric	Vertically Integrated	9/8/2022	Settled	9.90	NA
Connecticut	The United Illuminating Co.	D-22-08-08	Electric	Distribution	9/9/2022	Fully Litigated	8.63	50.00
Indiana	Northern IN Public Svc Co. LLC	Ca-45772	Electric	Vertically Integrated	9/19/2022	Settled	9.80	51.63
Arkansas*	Oklahoma Gas and Electric Co.	D-18-046-FR (2022 update)	Electric	Vertically Integrated	10/3/2022	Settled	NA	38.57
Maine	Versant Power	D-2022-00255	Electric	Distribution	10/3/2022	Settled	9.35	49.00
North Carolina	Duke Energy Progress LLC	D-E-2 Sub 1300	Electric	Vertically Integrated	10/6/2022	Fully Litigated	9.80	53.00
Montana	MDU Resources Group	D-2022-11-099	Electric	Vertically Integrated	11/2/2022	Settled	9.65	50.30
New Mexico	Southwestern Public Svc Co.	C-22-00286-UT	Electric	Vertically Integrated	11/18/2022	Settled	9.50	54.70
Oklahoma	Public Service Co. of OK	Ca-PUD2022-000093	Electric	Vertically Integrated	11/22/2022	Settled	9.30	52.00
Colorado	Public Service Co. of CO	D-22AL-0530E	Electric	Vertically Integrated	11/30/2022	Settled	9.30	55.69
Kentucky	Duke Energy Kentucky Inc.	C-2022-00372	Electric	Vertically Integrated	12/1/2022	Fully Litigated	9.75	52.15
						Mean	**9.60**	**50.97**
						Median	**9.60**	**51.63**
						Range	**8.57-10.50**	**39.62-55.69**
							n = 36	**n = 33**

*-Arkansas capital structures include extra elements. The cases are not included in the mean, median or range calculations.
**-Alaska Electric Light Power operates in an unusual environment. It is not included in the mean, median or range calculations.
***-Florida Power and Light Co.'s ROE includes an adjustment that is not determined in a base rate case.
The cases are not included in the mean, median or range calculations.

2023

State	Company	Docket	Rate Case Service Type	Case Type	Date	Decision Type	Return on Equity (%)	Common Equity to Total Capital (%)
North Carolina	Duke Energy Carolinas LLC	D-E-7 Sub 1276	Electric	Vertically Integrated	1/19/2023	Fully Litigated	10.10	53.00
Pennsylvania	UGI Utilities Inc.	D-R-2022-3037368	Electric	Distribution	1/27/2023	Settled	NA	NA
Idaho	Avista Corp.	C-AVU-E-23-01	Electric	Vertically Integrated	2/1/2023	Settled	9.40	50.00
Texas	Electric Transmission Texas	D-54608	Electric	Transmission	2/1/2023	Settled	NA	NA
Michigan	DTE Electric Co.	C-U-21297	Electric	Vertically Integrated	2/7/2023	Fully Litigated	9.90	NA
California	PacifiCorp	A-22-05-006	Electric	Vertically Integrated	2/8/2023	Fully Litigated	10.00	52.25
Arkansas*	The Empire District Electric C	D-22-085-U	Electric	Vertically Integrated	2/13/2023	Settled	9.70	NA
New Jersey	Atlantic City Electric Co.	D-ER23020091	Electric	Distribution	2/15/2023	Settled	9.60	50.20
Oregon	Portland General Electric Co.	D-UE-416	Electric	Vertically Integrated	2/15/2023	Settled	9.50	50.00
Maryland	Baltimore Gas and Electric Co.	C-9692 (EL)	Electric	Distribution	2/17/2023	Fully Litigated	9.50	52.00
Wyoming	PacifiCorp	D-20000-633-ER-23	Electric	Vertically Integrated	3/1/2023	Fully Litigated	9.35	48.99
Maryland	The Potomac Edison Co.	C-9695	Electric	Distribution	3/22/2023	Fully Litigated	9.50	53.00
Virginia	Appalachian Power Co.	C-PUR-2023-00002	Electric	Vertically Integrated	3/31/2023	Settled	NA	NA
Kansas	Evergy Kansas Central Inc.	D-23-EKCE-775-RTS (EKC/EK	Electric	Vertically Integrated	4/25/2023	Settled	NA	NA
Kansas	Evergy Metro Inc	D-23-EKCE-775-RTS (EM)	Electric	Vertically Integrated	4/25/2023	Settled	NA	NA
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-125 (Elec)	Electric	Vertically Integrated	4/28/2023	Fully Litigated	9.70	56.06
Wisconsin	Northern States Power Co.	D-4220-UR-126 (Elec)	Electric	Vertically Integrated	4/28/2023	Fully Litigated	9.80	52.50

Wisconsin	Wisconsin Power and Light Co	D-6680-UR-124 (Elec)	Electric	Vertically Integrated	4/28/2023	Fully Litigated	9.80	53.70
Idaho	Idaho Power Co.	C-IPC-E-23-11	Electric	Vertically Integrated	6/1/2023	Settled	9.60	NA
Vermont	Green Mountain Power Corp.	C-23-1852-TF	Electric	Vertically Integrated	6/1/2023	Fully Litigated	9.58	49.88
Nevada	Nevada Power Co.	D-23-06007	Electric	Vertically Integrated	6/5/2023	Fully Litigated	9.52	52.72
Massachusetts	Massachusetts Electric Co.	DPU 23-55	Electric	Distribution	6/15/2023	Fully Litigated	NA	NA
Arkansas*	Entergy Arkansas LLC	D-16-036-FR (2023 review)	Electric	Vertically Integrated	7/7/2023	Settled	NA	38.65
Massachusetts	NSTAR Electric Co.	DPU 23-92	Electric	Distribution	9/15/2023	Fully Litigated	NA	NA
KY	Duke Energy Kentucky, Inc.	C-2022-00372	Electric	Vertically Integrated	10/12/2023	Fully Litigated	9.75	52.15
NY	New York State Electric & Gas Co	C-22-E-0317	Electric	Distribution	10/12/2023	Settled	9.20	48.00
NY	Rochester Gas and Electric Corp	C-22-E-0319	Electric	Distribution	10/12/2023	Settled	9.20	48.00
VA	Virginia Electric and Power Com	C-PUR-2023-00022 (Rider CCR)	Electric	Limited-Issue Rider	10/16/2023	Fully Litigated	9.35	52.29
MD	The Potomac Edison Company	C-9695	Electric	Distribution	10/18/2023	Fully Litigated	9.50	53.00
IN	AES Indiana	Ca-45264-TDSIC-7	Electric	Limited-Issue Rider	10/18/2023	Fully Litigated	NA	NA
NM	Southwestern Public Service Con	C-22-00286-UT	Electric	Vertically Integrated	10/19/2023	Settled	9.50	54.70
MT	NorthWestern Energy Group, Inc	D-2022-7-78 (elec)	Electric	Vertically Integrated	10/25/2023	Settled	9.65	48.02
IN	Duke Energy Indiana, LLC	Ca-44720-TDSIC-12	Electric	Limited-Issue Rider	10/31/2023	Fully Litigated	NA	NA
OK	Public Service Company of Oklah	Ca-PUD2022-000093	Electric	Vertically Integrated	11/3/2023	Settled	9.30	52.00
WI	Madison Gas and Electric Compa	D-3270-UR-125 (Elec)	Electric	Vertically Integrated	11/3/2023	Fully Litigated	9.70	56.06
WI	Northern States Power Company	D-4220-UR-126 (Elec)	Electric	Vertically Integrated	11/9/2023	Fully Litigated	9.80	52.50
WI	Wisconsin Power and Light Com	D-6680-UR-124 (Elec)	Electric	Vertically Integrated	11/9/2023	Fully Litigated	9.80	53.70
CA	Pacific Gas and Electric Company	A-21-06-021 (Elec)	Electric	Vertically Integrated	11/16/2023	Fully Litigated	NA	NA
CA	Pacific Gas and Electric Company	A-21-06-021 (Track 2)	Electric	Limited-Issue Rider	11/16/2023	Settled	NA	NA
NJ	Atlantic City Electric Company	D-ER23020091	Electric	Distribution	11/17/2023	Settled	9.60	50.20
KS	Evergy Kansas Central, Inc.	D-23-EKCE-775-RTS (EKC/EKS)	Electric	Vertically Integrated	11/21/2023	Settled	NA	NA
KS	Evergy Metro, Inc.	D-23-EKCE-775-RTS (EM)	Electric	Vertically Integrated	11/21/2023	Settled	NA	NA
WY	PacifiCorp	D-20000-633-ER-23	Electric	Vertically Integrated	11/28/2023	Fully Litigated	9.35	48.99
IN	Southern Indiana Gas and Electri	Ca-44910-TDSIC-13	Electric	Limited-Issue Rider	11/29/2023	Fully Litigated	NA	NA
CA	Southern California Edison Com	A-19-08-013 (Track 4)	Electric	Limited-Issue Rider	11/30/2023	Settled	NA	NA
VA	Appalachian Power Company	C-PUR-2023-00002	Electric	Vertically Integrated	11/30/2023	Settled	NA	NA
MI	DTE Electric Company	C-U-21297	Electric	Vertically Integrated	12/1/2023	Fully Litigated	9.90	NA
Arkansas*	Entergy Arkansas, LLC	D-16-036-FR (2023 review)	Electric	Vertically Integrated	12/4/2023	Settled	NA	38.65
Arkansas*	The Empire District Electric Com	D-22-085-U	Electric	Vertically Integrated	12/7/2023	Settled	9.70	NA
CA	PacifiCorp	A-22-05-006	Electric	Vertically Integrated	12/14/2023	Fully Litigated	10.00	52.25
MD	Baltimore Gas and Electric Comp	C-9692 (EL)	Electric	Distribution	12/14/2023	Fully Litigated	9.50	52.00
IL	Commonwealth Edison Compan	D-23-0055	Electric	Distribution	12/14/2023	Fully Litigated	8.91	50.00
IL	Ameren Illinois Company	D-23-0082	Electric	Distribution	12/14/2023	Fully Litigated	8.72	50.00
NC	Duke Energy Carolinas, LLC	D-E-7 Sub 1276	Electric	Vertically Integrated	12/15/2023	Fully Litigated	10.10	53.00
OR	Portland General Electric Compa	D-UE-416	Electric	Vertically Integrated	12/18/2023	Settled	9.50	50.00
California**	Pacific Gas and Electric Company	Advice 4813-G/7046-E	Electric	Vertically Integrated	12/22/2023	Fully Litigated	10.70	52.00
California**	San Diego Gas & Electric Compar	Advice Letter 4300-E / 3239-G	Electric	Vertically Integrated	12/22/2023	Fully Litigated	10.65	52.00
California**	Southern California Edison Com	Advice Letter 5120-E (U 338-E)	Electric	Vertically Integrated	12/22/2023	Fully Litigated	10.75	52.00
NV	Nevada Power Company	D-23-06007	Electric	Vertically Integrated	12/26/2023	Fully Litigated	9.52	52.72
MA	NSTAR Electric Company	DPU 23-92	Electric	Distribution	12/26/2023	Fully Litigated	NA	NA
ID	Idaho Power Company	C-IPC-E-23-11	Electric	Vertically Integrated	12/28/2023	Settled	9.60	NA
						Mean	**9.58**	**50.92**
						Median	**9.58**	**52.00**
						Range	**8.72-10.10**	**48.00-56.06**
							n = 38	**n = 33**

*-Arkansas capital structures include extra elements. The cases are not included in the mean, median or range calculations.

**-The ROEs in these California dockets reflect adjustments that are not made a base rate case. The cases are not included in the mean, median or range calculations.

Total 2021-2023		
Mean	**9.60**	**50.31**
Median	**9.60**	**51.92**

ROE and ROR Analysis for FirstEnergy
Summary of ROE Analyses and Recommended ROE

Docket No. R-2024-3047068
Exhibit MFG-20
Schedule 1

Analysis	Weight		ROE	Exhibit
Constant-Growth DCF		**Mean**	9.24%	Exhibit ____ (MFG-17) Schedule 1
		Median	9.69%	
Multistage DCF		**Mean**	8.84%	Exhibit ____ (MFG-17) Schedule 5
		Median	9.21%	
CAPM S&P 500 Value Line		**Mean**	9.72%	Exhibit ____ (MFG-18), Schedule 4
		Median	9.83%	
Average of DCF models and Value Line CAPM		**Mean**	9.26%	
		Median	9.58%	
Average, Multistage Excluded		**Mean**	9.48%	
		Median	9.76%	

		2021	**2022**	**2023**	
Recently awarded ROEs	**Mean**	9.63	9.60	9.58	Exhibit ____ (MFG-19)
	Median	9.50	9.60	9.58	
	Range	8.57-10.60	8.57-10.50	NA	
	Cases	n = 31	n = 36	n = 38	

Initial ROE for FirstEnergy	9.48%
Penalty for Poor Service	– 0.10%
Recommended ROE for FirstEnergy reflecting 10-basis point penalty for poor service	9.38%

S&P Global
Market Intelligence

S&P Market Intelligence website, downloaded June 14, 2024

Average Long-Term Debt for each quarter ($000)

Company Name	2024Q1	2023Q4	2023Q3	2023Q2	2023Q1	2022Q4	2022Q3	2022Q2	Average 2022Q2-2024Q1
Alliant Energy Corporation	8,471,000	8,423,500	8,307,500	8,159,000	7,972,000	7,691,000	7,275,500	7,182,000	7,935,188
Ameren Corporation	15,144,000	14,475,000	14,078,500	14,254,500	13,933,000	13,631,000	13,281,000	12,774,000	13,946,375
American Electric Power Company, Inc.	38,729,300	37,771,050	37,262,850	37,035,300	35,905,150	34,610,950	33,859,450	32,475,650	35,956,213
Duke Energy Corporation	74,631,500	72,809,500	71,502,500	70,356,500	68,353,500	66,906,500	65,625,000	63,725,000	69,238,750
Edison International	32,540,000	31,031,000	30,495,500	30,357,000	29,164,500	27,047,500	26,210,500	26,254,500	29,137,563
Entergy Corporation	23,768,560	23,943,512	24,490,512	24,392,972	24,138,768	24,224,608	24,589,919	25,360,173	24,363,628
Evergy, Inc.	11,406,250	10,225,850	9,697,350	10,097,150	10,051,850	9,601,850	9,196,950	9,221,900	9,937,394
Eversource Energy	24,671,344	23,260,874	22,307,708	21,556,171	20,594,031	20,239,523	20,129,163	19,180,213	21,492,378
IDACORP, Inc.	2,775,875	2,800,970	2,654,251	2,482,702	2,338,598	2,132,774	2,073,550	2,063,166	2,415,236
NorthWestern Energy Group, Inc.	2,730,900	2,620,473	2,558,117	2,456,984	2,415,870	2,450,880	2,474,503	2,525,210	2,529,117
OGE Energy Corp.	4,316,450	4,355,350	4,339,350	4,166,550	3,788,800	3,565,850	3,547,900	4,022,300	4,012,819
Pinnacle West Capital Corporation	8,759,075	9,059,911	9,377,432	9,271,496	8,768,836	8,183,656	7,969,292	7,957,074	8,668,346
Portland General Electric Company	4,424,000	4,143,500	3,927,500	3,778,000	3,738,000	3,640,000	3,582,500	3,584,000	3,852,188
The Southern Company	59,585,000	57,920,000	56,906,500	54,962,000	52,739,000	51,932,000	52,244,000	52,411,000	54,837,438
Xcel Energy Inc.	26,725,000	25,957,500	25,472,500	24,472,000	23,907,000	24,142,500	24,345,500	23,507,500	24,816,188
FirstEnergy Corp.	22,358,000	22,973,000	22,769,000	22,390,000	21,787,000	21,177,500	20,834,000	21,258,500	21,943,375

Average Common Equity for each quarter ($000)

Company Name	2024Q1	2023Q4	2023Q3	2023Q2	2023Q1	2022Q4	2022Q3	2022Q2	Average 2022Q2-2024Q1
Alliant Energy Corporation	6,797,000	6,751,500	6,589,000	6,390,000	6,302,000	6,270,500	6,201,000	6,107,000	6,426,000
Ameren Corporation	11,396,000	11,196,000	10,870,000	10,652,000	10,557,500	10,354,500	10,040,500	9,843,000	10,613,688
American Electric Power Company, Inc.	25,525,000	25,278,200	24,605,550	23,819,800	23,815,800	24,085,800	24,167,100	23,923,650	24,402,613
Duke Energy Corporation	47,331,500	47,059,000	46,669,500	46,796,500	47,291,000	47,833,500	48,032,500	47,583,000	47,324,563
Edison International	13,673,000	13,760,000	13,753,500	13,742,500	13,656,500	13,529,000	13,606,000	13,775,500	13,687,000
Entergy Corporation	14,540,494	14,157,058	13,464,267	13,147,650	13,012,610	12,531,668	11,903,715	11,710,591	13,058,506
Evergy, Inc.	9,651,100	9,706,050	9,641,950	9,511,950	9,486,350	9,546,350	9,458,150	9,272,200	9,534,263
Eversource Energy	14,358,740	14,929,917	15,620,020	15,651,735	15,611,265	15,376,166	15,168,194	14,946,953	15,207,873
IDACORP, Inc.	2,911,357	2,914,229	2,887,326	2,838,409	2,815,147	2,792,769	2,742,553	2,692,158	2,824,243
NorthWestern Energy Group, Inc.	2,799,166	2,762,864	2,713,569	2,689,862	2,679,092	2,601,256	2,500,925	2,415,751	2,645,310
OGE Energy Corp.	4,478,450	4,526,150	4,459,900	4,374,550	4,391,700	4,427,050	4,348,800	4,259,800	4,408,300
Pinnacle West Capital Corporation	6,188,347	6,276,175	6,170,805	6,007,920	6,048,782	6,146,605	6,076,421	5,919,425	6,104,310
Portland General Electric Company	3,389,000	3,307,000	3,247,500	3,156,000	2,945,500	2,769,500	2,749,000	2,723,500	3,035,875
The Southern Company	31,682,000	31,255,500	30,869,500	30,600,000	30,468,000	30,823,500	29,985,000	28,514,000	30,524,688
Xcel Energy Inc.	17,728,500	17,462,500	17,111,500	16,866,000	16,746,500	16,529,500	16,177,500	15,851,500	16,809,188
FirstEnergy Corp.	17,462,500	17,111,500	16,866,000	16,746,500	16,529,500	16,177,500	15,851,500	15,672,000	16,552,125

Company Name	Average 2022Q2-2024Q1		Long-Term Debt %	Common Equity %	Total %
Alliant Energy Corporation	14,361,188		55.25%	44.75%	100.00%
Ameren Corporation	24,560,063		56.78%	43.22%	100.00%
American Electric Power Company, Inc.	60,358,825		59.57%	40.43%	100.00%
Duke Energy Corporation	116,563,313		59.40%	40.60%	100.00%
Edison International	42,824,563		68.04%	31.96%	100.00%
Entergy Corporation	37,422,134		65.10%	34.90%	100.00%
Evergy, Inc.	19,471,656		51.04%	48.96%	100.00%
Eversource Energy	36,700,252		58.56%	41.44%	100.00%
IDACORP, Inc.	5,239,479		46.10%	53.90%	100.00%
NorthWestern Energy Group, Inc.	5,174,427		48.88%	51.12%	100.00%
OGE Energy Corp.	8,421,119		47.65%	52.35%	100.00%
Pinnacle West Capital Corporation	14,772,656		58.68%	41.32%	100.00%
Portland General Electric Company	6,888,063		55.93%	44.07%	100.00%
The Southern Company	85,362,125		64.24%	35.76%	100.00%
Xcel Energy Inc.	41,625,375		59.62%	40.38%	100.00%
FirstEnergy Corp.	38,495,500		57.00%	43.00%	100.00%
All Comparison Group companies included		**Average**	56.99%	43.01%	100.00%
		Median	58.56%	41.44%	100.00%
		Low	46.10%	31.96%	
		High	68.04%	53.90%	
Companies with long-term debt ratios		**Average**	54.79%	45.21%	100.00%

greater than 60 percent excluded	**Median**	56.36%	43.64%	100.00%
	FirstEnergy Request	46.19%	53.81%	100.00%
	Recommended for FirstEnergy	50.00%	50.00%	100.00%

ROE and ROR Analysis for FirstEnergy
Recommended ROE and ROR
Weighted Average Cost of Capital
Based on Inputs from MFG-20, Schedules 1-2

Docket No. R-2024-3047068
Exhibit MFG-20
Schedule 3

Rate of Return PA OCA

	Ratio	Cost	WACC
Long-Term Debt	50.00%	4.56%	2.28%
Common Equity	50.00%	9.48%	4.74%
Overall Rate of Return	100.00%		7.02%

The recommended common equity cost of 9.48 percent is taken from Exhibit MFG-20, Schedule 1. The capital structure incorporates information from Exhibit MFG-20, Schedule 2. The cost of long-term debt is taken from the Direct Testimony of Weizhang (Bill) Wang, page 6.

Rate of Return PA OCA with penalty for poor service

	Ratio	Cost	WACC
Long-Term Debt	50.00%	4.56%	2.28%
Common Equity	50.00%	9.38%	4.69%
Overall Rate of Return	100.00%		6.97%

The recommended common equity cost of 9.38 percent is taken from Exhibit MFG-20, Schedule 1. It reflects a penalty to FirstEnergy of 10 basis points for persistent poor service. The capital structure incorporates information from Exhibit MFG-20, Schedule 2. The cost of long-term debt is taken from the Direct Testimony of Weizhang (Bill) Wang, page 6.

Requested Rate of Return
Otter Tail Power

	Ratio	Cost	WACC
Long-Term Debt	46.19%	4.56%	2.11%
Common Equity	53.81%	11.30%	6.08%
Overall Rate of Return	100.00%		8.19%

The recommended common equity cost of 11.30 percent is taken from the Direct Testimony of Dylan D'Ascendis, Exhibit DWD-1, Page 2 of 2. The capital structure is taken from the Direct Testimony of Weizhang (Bill) Wang, page 6. The cost of long-term debt is taken from the Direct Testimony of Weizhang (Bill) Wang, page 6.□

Adjustment to operating income after depreciation and amortization (D&A) and EBIT: We reduce D&A related to the securitized debt, which is assumed to equal the principal payments during the period. As a result, the reduction to operating income after D&A is only for the interest portion.
Adjustment to interest expense: We remove the interest expense of the securitized debt from total interest expense.
Operating cash flows:
We reduce operating cash flows for revenues and increase for the assumed interest amount related to the securitized debt. This results in a net decrease to operating cash flows equal to the principal repayment amount.

Infrastructure renewals expenditure

72. In England and Wales, water utilities can report under either IFRS or U.K. GAAP. Those that report under U.K. GAAP are allowed to adopt infrastructure renewals accounting, which enables the companies to capitalize the maintenance spending on their underground assets, called infrastructure renewals expenditure (IRE). Under IFRS, infrastructure renewals accounting is not permitted and maintenance expenditure is charged to earnings in the year incurred. This difference typically results in lower adjusted operating cash flows for those companies that report maintenance expenditure as an operating cash flow under IFRS, than for those that report it as capital expenditure under U.K. GAAP. We therefore make financial adjustments to amounts reported by water issuers that apply U.K. GAAP, with the aim of making ratios more comparable with those issuers that report under IFRS and U.S. GAAP. For example, we deduct IRE from EBITDA and FFO.

73. IRE does not always consist entirely of maintenance expenditure that would be expensed under IFRS. A portion of IRE can relate to costs that would be eligible for capitalization as they meet the recognition criteria for a new fixed asset set out in International Accounting Standard 16 that addresses property, plant, and equipment. In such cases, we may refine our adjustment to U.K. GAAP companies so that we only deduct from FFO the portion of IRE that would not be capitalized under IFRS. However, the information to make such a refinement would need to be of high quality, reliable, and ideally independently verified by a third party, such as the company's auditor. In the absence of this, we assume that the entire amount of IRE would have been expensed under IFRS and we accordingly deduct the full expenditure from FFO.

74. Adjustment procedures:

Data requirements:
U.K. GAAP accounts typically provide little information on the portion of capital spending that relates to renewals accounting, or the related depreciation, which is referred to as the infrastructure renewals charge. The information we use for our adjustments is, however, found in the regulatory cost accounts submitted annually by the water companies to the Water Services Regulation Authority, which regulates all water companies in England and Wales.
Calculations:
EBITDA: Reduced by the value of IRE that was capitalized in the period.
EBIT: Adjusted for the difference between the adjustment to EBITDA and the reduction in the depreciation expense, depending on the degree to which the actual cash spending in the current year matches the planned spending over the five-year regulatory review period.
Cash flow from operations and FFO: Reduced by the value of IRE that was capitalized in the period.
Capital spending: Reduced by the value of infrastructure renewals spending that we reclassify to cash flow from operations.
Free operating cash flow: No impact, as the reduction in operating cash flows is exactly offset by the reduction in capital spending.

E. Cash flow/leverage analysis

75. In assessing the cash flow adequacy of a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology (/en_US/web/guest/article/-/view/sourceId/8314109)"). We assess cash flow/leverage on a six-point scale ranging from ('1') minimal to ('6') highly leveraged. These scores are determined by aggregating the assessments of a range of credit ratios, predominantly cash flow-based, which complement each other by focusing attention on the different levels of a company's cash flow waterfall in relation to its obligations.

76. The corporate methodology provides benchmark ranges for various cash flow ratios we associate with different cash flow leverage assessments for standard volatility, medial volatility, and low volatility industries. The tables of benchmark ratios differ for a given ratio and cash flow leverage assessment along two dimensions: the starting point for the ratio

range and the width of the ratio range.

77. If an industry's volatility levels are low, the threshold levels for the applicable ratios to achieve a given cash flow leverage assessment are less stringent, although the width of the ratio range is narrower. Conversely, if an industry has standard levels of volatility, the threshold levels for the applicable ratios to achieve a given cash flow leverage assessment may be elevated, but with a wider range of values.

78. We apply the "low-volatility" table to regulated utilities that qualify under the corporate criteria and with all of the following characteristics:

A vast majority of operating cash flows come from regulated operations that are predominantly at the low end of the utility risk spectrum (e.g., a "network," or distribution/transmission business unexposed to commodity risk and with very low operating risk);
A "strong" regulatory advantage assessment;
An established track record of normally stable credit measures that is expected to continue;
A demonstrated long-term track record of low funding costs (credit spread) for long-term debt that is expected to continue; and
Non-utility activities that are in a separate part of the group (as defined in our group rating methodology) that we consider to have "nonstrategic" group status and are not deemed high risk and/or volatile.

79. We apply the "medial volatility" table to companies that do not qualify under paragraph 78 with:

A majority of operating cash flows from regulated activities with an "adequate" or better regulatory advantage assessment; or
About one-third or more of consolidated operating cash flow comes from regulated utility activities with a "strong" regulatory advantage and where the average of its remaining activities have a competitive position assessment of '3' or better.

80. We apply the "standard-volatility" table to companies that do not qualify under paragraph 79 and with either:

About one-third or less of its operating cash flow comes from regulated utility activities, regardless of its regulatory advantage assessment; or
A regulatory advantage assessment of "adequate/weak" or "weak."

Part III--Rating Modifiers

F. Diversification/portfolio effect

81. In assessing the diversification/portfolio effect on a regulated utility, our analysis uses the same methodology as with other corporate issuers (see "Corporate Methodology (/en_US/web/guest/article/-/view/sourceId/8314109)").

G. Capital structure

82. In assessing the quality of the capital structure of a regulated utility, we use the same methodology as with other corporate issuers (see "Corporate Methodology (/en_US/web/guest/article/-/view/sourceId/8314109)").

H. Liquidity

83. In assessing a utility's liquidity/short-term factors, our analysis is consistent with the methodology that applies to corporate issuers (See "Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers (/en_US/web/guest/article/-/view/sourceId/6881137)," Dec. 16, 2014) except for the standards for "adequate" liquidity set out in paragraph 84 below.

84. The relative certainty of financial performance by utilities operating under relatively predictable regulatory monopoly frameworks make these utilities attractive to investors even in times of economic stress and market turbulence compared to conventional industrials. Also, recognizing the cash flow stability of regulated utilities we allow more discretion when calculating covenant headroom. For this reason, when determining if utilities with business risk profiles of at least "satisfactory" meet our definition of "adequate" liquidity, we use slightly lower thresholds:

A ratio of sources to uses higher than 1.1x, compared with the standard 1.2x;
Positive sources over uses even if forecast EBITDA declines by 10% (compared with a 15% decline for corporate issuers);

120. For companies undergoing a transformational event and with significant or weaker cash flow/leverage assessments, we place greater weight on near-term risk factors. That's because overemphasis on longer-term (inherently less predictable) issues could lead to some distortion when assessing the risk level of a speculative-grade company. We generally analyze a company using the arithmetic mean of the credit ratios expected according to our forecasts for the current year (or pro forma current year) and the subsequent financial year. A common example of this is when a private equity firm acquires a company using additional debt leverage, which makes historical financial ratios meaningless. In this scenario, we weight or focus the majority of our analysis on the next one or two years of projected credit measures.

3. Determining the cash flow/leverage assessment

a) Identifying the benchmark table

121. Tables 17, 18, and 19 provide benchmark ranges for various cash flow ratios we associate with different cash flow/leverage assessments for standard volatility, medial volatility, and low volatility industries. The tables of benchmark ratios differ for a given ratio and cash flow/leverage assessment along two dimensions: the starting point for the ratio range and the width of the ratio range.

122. If an industry exhibits low volatility, the threshold levels for the applicable ratios to achieve a given cash flow/leverage assessment are less stringent than those in the medial or standard volatility tables, although the range of the ratios is narrower. Conversely, if an industry exhibits medial or standard levels of volatility, the threshold for the applicable ratios to achieve a given cash flow/leverage assessment are elevated, albeit with a wider range of values.

123. The relevant benchmark table for a given company is based on our assessment of the company's associated industry and country risk volatility, or the CICRA (see section A, table 1). The low volatility table (table 19) will generally apply when a company's CICRA is 1, unless otherwise indicated in a sector's KCF criteria. The medial volatility table (table 18) will be used under certain circumstances for companies with a CICRA of 1 or 2. Those circumstances are described in the respective sectors' KCF criteria. The standard volatility table (table 17) serves as the relevant benchmark table for companies with a CICRA of 2 or worse, and we will always use it for companies with a CICRA of 1 or 2 and whose competitive position is assessed 5 or 6. Although infrequent, we will use the low volatility table when a company's CICRA is 2 for companies that exhibit or are expected to exhibit low levels of volatility. The choice of volatility tables for companies with a CICRA of 2 is addressed in the respective sector's KCF article.

Table 17

Cash Flow/Leverage Analysis Ratios--Standard Volatility

	--Core ratios--		--Supplementary coverage ratios--		--Supplementary payback ratios--		
	FFO/debt (%)	Debt/EBITDA (x)	FFO/cash interest(x)	EBITDA/interest (x)	CFO/debt (%)	FOCF/debt (%)	DCF/debt (%)
Minimal	60+	Less than 1.5	More than 13	More than 15	More than 50	40+	25+
Modest	45-60	1.5-2	9-13	10-15	35-50	25-40	15-25
Intermediate	30-45	2-3	6-9	6-10	25-35	15-25	10-15
Significant	20-30	3-4	4-6	3-6	15-25	10-15	5-10
Aggressive	12-20	4-5	2-4	2-3	10-15	5-10	2-5
Highly leveraged	Less than 12	Greater than 5	Less than 2	Less than 2	Less than 10	Less than 5	Less than 2

Table 18

Cash Flow/Leverage Analysis Ratios--Medial Volatility

	--Core ratios--		--Supplementary coverage ratios--		--Supplementary payback ratios--		
	FFO/debt (%)	Debt/EBITDA (x)	FFO/cash interest (x)	EBITDA/interest (x)	CFO/debt (%)	FOCF/debt (%)	DCF/debt (%)
Minimal	50+	less than 1.75	10.5+	14+	40+	30+	18+
Modest	35-50	1.75-2.5	7.5-10.5	9-14	27.5-40	17.5-30	11-18
Intermediate	23-35	2.5-3.5	5-7.5	5-9	18.5-27.5	9.5-17.5	6.5-11

Significant	13-23	3.5-4.5	3-5	2.75-5	10.5-18.5	5-9.5	2.5-6.5
Aggressive	9-13	4.5-5.5	1.75-3	1.75-2.75	7-10.5	0-5	(11)-2.5
Highly leveraged	Less than 9	Greater than 5.5	Less than 1.75	Less than 1.75	Less than 7	Less than 0	Less than (11)

Table 19

Cash Flow/Leverage Analysis Ratios--Low Volatility

	--Core ratios--		--Supplementary coverage ratios--		--Supplementary payback ratios--		
	FFO/debt (%)	Debt/EBITDA (x)	FFO/cash interest (x)	EBITDA/interest (x)	CFO/debt (%)	FOCF/debt (%)	DCF/debt (%)
Minimal	35+	Less than 2	More than 8	More than 13	More than 30	20+	11+
Modest	23-35	2-3	5-8	7-13	20-30	10-20	7-11
Intermediate	13-23	3-4	3-5	4-7	12-20	4-10	3-7
Significant	9-13	4-5	2-3	2.5-4	8-12	0-4	0-3
Aggressive	6-9	5-6	1.5-2	1.5-2.5	5-8	(10)-0	(20)-0
Highly leveraged	Less than 6	Greater than 6	Less than 1.5	Less than 1.5	Less than 5	Less than (10)	Less than (20)

b) Aggregating the credit ratio assessments

124. To determine the final cash flow/leverage assessment, we make these calculations:

1) First, calculate a time series of standard core and supplemental credit ratios, select the relevant benchmark table, and determine the appropriate time weighting of the credit ratios.

Calculate the two standard core credit ratios and the five standard supplemental credit ratios over a five-year time horizon.
Consult the relevant industry KCF article (if applicable), which may identify additional supplemental ratio(s). The relevant benchmark table for a given company is based on our assessment of the company's associated industry and country risk volatility, or the CICRA.
Calculate the appropriate weighted average cash flow/leverage ratios. If the company is undergoing a transformational event, then the core and supplemental ratios will typically be calculated based on S&P Global Ratings' projections for the current and next one or two financial years.
2) Second, we use the core ratios to determine the preliminary cash flow assessment.

Compare the core ratios (FFO to debt and debt to EBITDA) to the ratio ranges in the relevant benchmark table.
If the core ratios result in different cash flow/leverage assessments, we will select the relevant core ratio based on which provides the best indicator of a company's future leverage.
3) Third, we review the supplemental ratio(s).

Determine the importance of standard or KCF supplemental ratios based on company-specific characteristics, namely, leverage, capital intensity, working capital intensity, growth rate, or industry.
4) Fourth, we calculate the adjusted cash flow/leverage assessment.

If the cash flow/leverage assessment(s) indicated by the important supplemental ratio(s) differs from the preliminary cash flow/leverage assessment, we might adjust the preliminary cash flow/leverage assessment by one category in the direction of the cash flow/leverage assessment indicated by the supplemental ratio(s) to derive the adjusted cash flow/leverage assessment. We will make this adjustment if, in our view, the supplemental ratio provides the best indicator of a company's future leverage.
If there is more than one important supplemental ratio and they result in different directional deviations from the preliminary cash flow/leverage assessment, we will select one as the relevant supplemental ratio based on which, in our opinion, provides the best indicator of a company's future leverage. We will then make the adjustment outlined above if the selected supplemental ratio differs from the preliminary cash flow/leverage assessment and the selected supplemental ratio provides the best overall indicator of a company's future leverage.
5) Lastly, we determine the final cash flow/leverage assessment based on the volatility adjustment.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Marlon Griffing, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 2, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 25, 2024

Signature: Marlon Griffing
Marlon Griffing

Address: PCMG and Associates
22 Brookes Avenue
Gaithersburg, MD 20877

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Co.	**:**	

SURREBUTTAL TESTIMONY

OF

MARLON F. GRIFFING, PH.D

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

August 8, 2024

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.

A. My name is Dr. Marlon F. Griffing. I am a Senior Consultant with the economic consulting firm of PCMG & Associates Inc. ("PCMG"). My business address is 22 Brookes Drive, Gaithersburg, MD 20785.

Q. ARE YOU THE SAME DR. MARLON F. GRIFFING WHO FILED DIRECT TESTIMONY ON BEHALF OF THE PENNSYLVANIA OFFICE OF THE CONSUMER ADVOCATE IN THIS DOCKET?

A. Yes. I am filing Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate ("OCA") regarding the cost of capital for the operations of FirstEnergy Pennsylvania Electric Company ("FirstEnergy" or "Company") in this docket before the Pennsylvania Public Utility Commission ("Commission").

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my testimony is to respond to the Rebuttal Testimonies of Company witnesses Dylan D'Ascendis and Weizhong (Bill) Wang.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony has four sections.

- First, I continue to recommend a return on equity ("ROE") of 9.38 percent and a 6.97 percent rate of return ("ROR") for the Company.
- Second, I respond to criticisms of my ROE analysis by Mr. D'Ascendis.
- Third, I respond to Mr. D'Ascendis's and Mr. Wang's remarks regarding capital structure for FirstEnergy; and
- Fourth, I summarize my testimony and recommendations.

II. RECOMMENDED ROE AND ROR

Q. PLEASE STATE YOUR CONCLUSIONS REGARDING THE COMPANY'S ROE AND ROR.

A. My recommended ROE for the Company is 9.38 percent, the same ROE value I recommended in my Direct Testimony. This value reflects an analysis that yielded an ROE of 9.48 percent. It reflects my further recommendation that the Commission reduce FirstEnergy's ROE by 10 basis points in light of its continuing poor reliability and service quality performances. [1] When this number is included in the calculation of the ROR, the result is a weighted-average cost of capital of 6.97 percent for FirstEnergy.[2]

III. Mr. D'Ascendis's Criticisms of my ROE Analysis

Q. WHAT DOES MR. D'ASCENDIS IDENTIFY AS KEY AREAS OF DISAGREEMENT BETWEEN HIS ANALYSES AND RECOMMENDATIONS AND YOUR ANALYSES AND RECOMMENDATIONS?

A. Mr. D'Ascendis identifies (1) my selection criteria for the Comparison Group; (2) my use of dividend per share growth ("DPS") rates in my discounted cash flow ("DCF) models; (3) the applicability of the multistage DCF model in my analysis; (4) my application of the capital asset pricing model ("CAPM"); (5) my failure to reflect flotation costs incurred by the Company; and (6) my proposed capital structure for FirstEnergy as areas of difference.

[1] Exhibit MFG-20, Schedule 1.
[2] Exhibit MFG-20, Schedule 3.

Q. DO YOU RESPOND TO ALL OF THESE SUBJECTS?

A. No. Mr. D'Ascendis does not offer any criticism of the selection criteria I applied in selecting the Comparison Group. Therefore, I am unable to respond. Mr. D'Ascendis said in his Rebuttal Testimony that he would not address the multistage DCF model ROE result if the weighting was unchanged.[3] I continue to give that ROE result no weight. In addition, I will provide a combined response to Mr. D'Ascendis and Mr. Wang regarding an appropriate capital structure for First Energy.

A. Use of Dividend per Share Growth Rates in the DCF Model

Q. PLEASE SUMMARIZE MR. D'ASCENDIS'S POSITION REGARDING THE GROWTH RATE TO USE AS THE INPUT FOR THE GROWTH-RATE COMPONENT OF THE DCF MODEL.

A. Mr. D'Ascendis states that I should have used the earnings per share ("EPS") growth rates from Value Line, Zacks, and Yahoo! Finance as the inputs for determining the value of the growth-rate component of the DCF model rather than the dividend per share ("DPS") growth rate from Value Line.

Q. WHAT IS YOUR RESPONSE TO MR. D'ASCENDIS REGARDING THE INPUT FOR THE GROWTH-RATE COMPONENT?

A. There is more than one way to approach the growth-rate component of the DCF model. As Mr. D'Ascendis acknowledges, DPS does have an influence on the dividend growth-rate expectations of investors.[4] Unlike the stock price and dividend inputs, the growth rate

[3] Rebuttal Test. of Dylan D'Ascendis on behalf of FirstEnergy, FE PA Statement No. 10-R (July 22, 2024) [hereinafter "D'Ascendis Rebuttal"], page 39.
[4] D'Ascendis Rebuttal, page 40.

input (g) must be estimated. As a result, the growth rate is often the most contentious issue related to DCF model inputs in utility rate cases. Accordingly, it is not surprising that Mr. D'Ascendis's estimated growth rates and my estimated growth rates differ.

B. Application of the CAPM

Q. PLEASE SUMMARIZE MR. D'ASCENDIS'S POSITION REGARDING YOUR APPLICATION OF THE CAPM.

A. Mr. D'Ascendis states that in my application of the CAPM I (1) do not use projected interest rates to set the risk-free interest rate; (2) my use of Kroll for a market risk premium source is flawed; and (3) I do not include the empirical CAPM ("ECAPM") in my analysis.

Q. WHAT RATE DID YOU USE FOR YOUR RISK-FREE RATE OF INTEREST?

A. I used the four-week average yield on the 30-Year U.S. Treasury bond as my risk-free rate.

Q. PLEASE EXPLAIN WHY THIS CURRENT INTEREST RATE IS THE BEST INPUT FOR DETERMINING THE RISK-FREE RATE?

A. Current yields on the 30-year Treasury bond are the best risk-free rate for the CAPM analysis. Current bond yields capture all the beliefs of investors as to where yields on the instruments are headed, making them forward-looking.

Q. WHY ARE FORECASTS OF BOND YIELDS NOT APPROPRIATE FOR SETTING THE CAPM RISK-FREE RATE?

A. Bond-yield forecasts do not capture the actions of investors in financial markets, unlike actual current yields, which reflect the prices at which investors have actually bought and sold financial instruments. The yield forecasts, therefore, are speculative. Investors can choose to read forecasted yields and use them to guide their bond market transactions, but

the forecasted yields are not determinative of the investors current actions as they do not require commitments of resources by investors.

Q. WHAT FACTORS SUPPORT USING THE KROLL EQUITY RISK PREMIUM AS THE MARKET RISK PREMIUM FOR THE CAPM?

A. The market risk premium ("MRP") is the difference in return from a broad market measure and the risk-free rate of return. The best MRP is forward-looking. The Kroll equity risk premium is equivalent to the MRP. It represents the opinion of market professionals at Kroll, a well-known, self-described risk and financial advisory solutions company, as to the premium above the risk-free rate of interest that investors currently require looking forward to placing their funds with companies. Thus, the Kroll value fits the criteria for the MRP.

Q. WHAT OTHER INDICATORS OF THE MRP DOES MR. D'ASCENDIS CITE AS ALTERNATIVES BETTER THAN THE KROLL MRP?

A. Mr. D'Ascendis promotes the use of a historical MRP, such as can be derived from long-term returns information published in the annual Stocks, Bonds, Bills, and Inflation ("SBBI") Yearbook.[5] He also notes that I have previously used Value Line information to calculate a forward-looking MRP based on the S&P 500.

Q. WHY DID YOU NOT USE THESE OTHER MRP INDICATORS?

A. The SBBI-based approach is historical, not forward-looking, which is why I did not use it. As for the Value Line S&P 500 approach, Mr. D'Ascendis has performed a calculation of the ROE that results from application of the Value Line S&P 500. The outcome for the

[5] Ironically, the SSBI Yearbook has been acquired by Kroll.

Comparison Group is a mean ROE of 10.77 percent and a median ROE of 10.90 percent.[6] Either value is greater than the 10.60 percent single highest ROE authorized for an electric utility in the United States from 2021-2023.[7] Just as I excluded the Multistage DCF analysis ROE result for being at the bottom of authorized ROEs over that span, had I performed an analysis similar to Mr. D'Ascendis's I would have excluded the Value Line S&P 500 CAPM ROE for being an outlier above the top of the range. Thus, the absence of a Value Line S&P 500 CAPM ROE value from my analysis would make no difference to my ROE recommendation.

Q. PLEASE DISCUSS THE ROLE IN YOUR CAPM ANALYSIS OF THE KROLL RISK-FREE RATE?

A. Mr. D'Ascendis states that calculation of the Kroll risk-free rate is not explained, implying this casts doubt on the Kroll MRP as well. However, the calculation of the Kroll risk-free rate is moot as I use a recent four-week average yield on the 30-Year U.S. Treasury Bond as my risk-free rate, not the Kroll rate.

Q. WHAT IS YOUR RESPONSE TO MR D'ASCENDIS'S CRITICISM THAT YOU SHOULD HAVE USED THE ECAPM IN YOUR ANALYSIS?

A. The ECAPM has not been the subject of peer review. Professor Roger Morin developed the ECAPM. The only citation to it appears in the References section of Chapter 6 of his regulatory handbook, *New Regulatory Finance*. The reference cited is a 1989 US West Communications docket before the Arizona Corporation Commission in which Professor Morin filed Rebuttal Testimony, not a peer-reviewed journal.[8]

[6] D'Ascendis Rebuttal, Exhibit DWD-15R.
[7] Exhibit MFG-19.
[8] Morin, Roger A, *New Regulatory Finance*, Public Utilities Reports, June 1, 2006.

Despite not having been peer reviewed, the ECAPM has been proposed for use in numerous rate cases. However, few Commissions have accepted the ECAPM as electric and gas utilities in general have low betas. Adjusting betas upward, as is done in the ECAPM, almost guarantees a higher ROE. If betas make sense, then to claim that low-beta stocks need adjustments to increase their return contradicts the efficient market theory.

C. Adjustment for Flotation Costs

Q. PLEASE SUMMARIZE MR. D'ASCENDIS'S POSITION REGARDING FLOTATION COSTS.

A. Mr. D'Ascendis states that I previously have included adjustments for flotation costs in other jurisdictions and that I should have included the adjustment in this docket.

Q. WHY DID YOU NOT INCLUDE AN ADJUSTMENT FOR FLOTATION COSTS IN THIS DOCKET?

A. As I noted in my Direct Testimony, the Commission does not include flotation costs in ROEs. Therefore, I did not include flotation costs in my ROE results.

IV. Criticisms of My Capital Structure Analysis

Q. WHAT IS THE SUPPORT FOR THE HYPOTHETICAL CAPITAL STRUCTURE OF 50 PERCENT LONG-TERM DEBT, 50 PERCENT COMMON EQUITY THAT YOU RECOMMEND FOR FIRSTRENERGY?

A. My analysis shows that the average capital structure ratios of the electric utilities in the Comparison Group are 56.99 percent long-term debt and 43.01 percent common equity. FirstEnergy requested a capital structure of 46.19 percent long-term debt and 53.81 percent

common equity, stating those ratios are its actual capital structure. A hypothetical capital structure is justified when its actual capitalization is out of line with other utilities in its industry. FirstEnergy's stated actual capitalization includes almost 11 percent more common equity than the average common-equity ratio of the Comparison Group. Even adjusted by removing electric utilities with outlier long-term debt ratios from the group average, the FirstEnergy common-equity ratio is almost 9 percent greater than the group's common equity ratio. Given these facts, my recommended hypothetical capital structure is justified.

Q. WHAT CRITICISM DOES MR. WANG LEVEL AT YOUR CAPITAL-STRUCTURE ANALYSIS?

A. Mr. Wang states that I should not have used the capital structures of the members of the Comparison Group in my analysis. He asserts that I should have used the capital structures of the operating subsidiaries of the Comparison Group electric utilities.

Q. DO YOU AGREE WITH MR. WANG?

A. No. It is appropriate to use the capital structures of the electric utilities in a proxy group like the Comparison Group in a capital structure analysis because those companies are the firms upon which all other aspects of the ROR for a company like FirstEnergy are set. That is, it is the dividends, dividend growth-rates, common-equity share prices and betas of the Comparison Group members that are the inputs to the DCF and CAPM analyses. Investors cannot buy shares of operating subsidiaries, for example, meaning these units do not have common-equity share prices to use as an input into the DCF model. Using the capital structures of the operating subsidiaries instead of the capital structures of proxy group companies would needlessly introduce inconsistency into the ROE analyses.

Q. MR. WANG STATES THAT THE PROPOSED FIRSTENERGY CAPITAL STRUCTURE LOWERS COSTS ON FUTURE DEBT ISSUED BY THE COMPANY. DO YOU AGREE?

A. No. Mr. Wang does not provide any analysis as to the magnitude of the higher ROR and related higher rates for FirstEnergy customers that flow from a capital structure with a higher common-equity ratio in comparison to what he alleges would be lower debt costs in the future. His statement is thus pure speculation. What we do know from the evidence of this case is that the Company's proposed capital structure will cost ratepayers approximately $19 million more per year than the 50/50 capital structure I recommend for ratemaking purposes.[9]

V. SUMMARY

Q. DOES THE ABSENCE OF A RESPONSE TO MATTERS RAISED BY MR. D'ASCENDIS IN HIS REBUTTAL TESTIMONY INDICATE YOU AGREE WITH HIM?

A. No. I do not address all the matters raised by Mr. D'Ascendis in his Rebuttal Testimony. The absence of a response in this Surrebuttal Testimony indicated I have the same position on those issues that I did in my direct testimony. For example, I still oppose Mr. D'Ascendis' use of a group of companies from non-regulated businesses as being a standard for setting an ROE for FirstEnergy. Such companies attained credit ratings like those for regulated utilities such as FirstEnergy only by having higher ROEs than did the regulated utilities. They required the higher returns to offset the greater volatility in their returns compared with the low volatility of returns for the utilities. Therefore, despite

[9] See OCA St. 1, pg. 30, fn. 13.

having similar credit ratings, the ROEs for the non-regulated companies were not comparable to the ROEs for the regulated electric utilities.

Q. WHAT ARE THE CRITERIA THE COMMISSION SHOULD CONSIDER IN SETTING THE COMPANY'S ROE AND ROR?

A. The Commission should only consider whether the ROE and ROR meet the *Bluefield* and *Hope* criteria for a fair return. Recounting, these criteria include returns commensurate with returns earned on other investments with equivalent risks, rate of return sufficient to enable the utility to attract capital and returns sufficient to enable the regulated company to maintain its credit rating and financial integrity. The interpretation of the *Hope* and *Bluefield* criteria is that a company should be given the opportunity to earn an ROE and ROR sufficient to meet these standards.

Q. WHAT DOES YOUR ROE ANALYSIS REFLECT?

A. My ROE analysis reflects the latest views of investors regarding the prospects of the Comparison Group companies. I have shown that the outcome of my forward-looking ROE analysis is compatible with recent ROEs authorized for electric utilities.

Q. WHAT IS YOUR RECOMMENDED RETURN ON EQUITY AND OVERALL COST OF CAPITAL?

A. I recommend a return on equity of 9.38 percent and an overall rate of return of 6.97 percent.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Marlon Griffing, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 2SR, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2024

Signature: Marlon Griffing
Marlon Griffing

Address: PCMG and Associates
22 Brookes Avenue
Gaithersburg, MD 20877

OCA St. 3

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Company	**:**	

DIRECT TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 25, 2024

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APPENDICES

Appendix A:	The Depreciation System
Appendix B:	Iowa Curves
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I. INTRODUCTION

Q. State your name and occupation.

A. My name is David J. Garrett. I am a consultant specializing in public utility regulation. I am the managing member of Resolve Utility Consulting PLLC.

Q. Summarize your educational background and professional experience.

A. I received a B.B.A. with a major in Finance, an M.B.A., and a Juris Doctor from the University of Oklahoma. I worked in private legal practice for several years before accepting a position as assistant general counsel at the Oklahoma Corporation Commission in 2011. At the commission, I worked in the Office of General Counsel in regulatory proceedings. In 2012, I began working for the Public Utility Division as a regulatory analyst providing testimony in regulatory proceedings. After leaving the commission, I formed Resolve Utility Consulting PLLC, where I have represented various consumer groups and state agencies in utility regulatory proceedings, primarily in the areas of cost of capital and depreciation. I am a Certified Depreciation Professional with the Society of Depreciation Professionals. I am also a Certified Rate of Return Analyst with the Society of Utility and Regulatory Financial Analysts. A more complete description of my qualifications and regulatory experience is included in my curriculum vitae.[1]

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate ("OCA").

[1] Exhibit DJG-1.

Q. Describe the purpose and scope of your testimony in this proceeding.

A. My testimony addresses FirstEnergy Pennsylvania Electric Company's ("FirstEnergy" or the "Company") depreciation study and proposed depreciation rates in response to the direct testimony of Company witness John Spanos.

II. EXECUTIVE SUMMARY

Q. Please summarize the Company's proposed depreciation rates.

A. Mr. Spanos conducted depreciation studies for FirstEnergy's rate districts, including Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric Company ("Penelec"), Pennsylvania Power Company ("Penn Power"), and West Penn Power Company ("West Penn") (referred to collectively as the "Rate Districts"). Mr. Spanos conducted depreciation studies for the Rate Districts based on plant and reserve balances at December 31, 2023 (the "2023 Study"), December 31, 2024 (the "2024 Study") and December 31, 2025 (the "2025 Study"). In the 2025 Study, Mr. Spanos proposes a total annual depreciation accrual for the Rate Districts of approximately $330 million.[2] Mr. Spanos used the equal life group ("ELG") procedure to calculate his proposed remaining lives for the Company's depreciable plant.

Q. Please summarize your adjustments to the Company's proposed depreciation rates.

A. The Company is proposing a significant overall increase to the annual depreciation accrual of its Rate Districts in the amount of $52.8 million, which represents an increase of about

[2] *See* Exhibit DJG-2.

20%.[3] The primary driver of the Company's proposed increase to depreciation expense in this case is the switch from the ALG procedure to the ELG procedure proposed by Mr. Spanos. I recommend that the Commission authorize depreciation rates for the Company's assets that are calculated using the average life group ("ALG") procedure, which is the procedure that the Company's Rate Districts are currently using and which they had been using when they were separate utilities The key points of my testimony are as follows:

- The Commission should reject the Company's decision to change from ALJ to the ELG procedure, which effectively results in an accelerated form of cost recovery that benefits the Company at the expense of current customers. The Company's use of the ELG procedure, rather than the widely-adopted ALG procedure that they currently use, increases the annual depreciation accrual charged to customers by $56,858,641 in the 2023 Study, by $59,530,634 in the 2024 Study, and by $62,573,657 in the 2025 Study. In other words, even if there are no adjustments to the net salvage rates, service life, or other depreciation parameters for any accounts in the depreciation study, rejecting the Company's request to change their depreciation procedure and requiring them to use the majority-view ALG procedure alone will result in significantly fairer and more reasonable rates.
- I also present evidence showing the service lives estimated by Mr. Spanos are notably shorter than what the retirement pattern derived from the Company's historical plant data indicates. Unreasonably short service lives result in unreasonably high depreciation rates. While adjustments could be made to extend

[3] *See* response to OCA VII-9, Attachments A-D; based on plant balances at December 31, 2025.

the service lives and thus reduce the depreciation rates for the service life accounts at issue, I am not proposing any service life adjustments in this case. This is because the Commission should focus on rejecting the Company's request to change to the ELG procedure in favor of the majority-view ALG procedure that the Company currently uses. Doing so in this case would result in much fairer rates for customers and a substantial decrease in depreciation expense. Under these circumstances, the OCA has chosen not to make any specific service life adjustments in this case but does so without conceding that the service lives chosen by the Company are appropriate or accurate and without waiving its ability to challenge service lives in future cases. .

- The results of my application of the ALG procedure to the Company's depreciation studies are summarized in the table below.[4]

Figure 1:
Summary Depreciation Accrual Adjustment – 2023 Study

Rate District	Plant 12/31/2023	FirstEnergy Accrual	OCA Accrual	OCA Adjustment
Met-Ed	3,272,706,643	89,309,768	70,504,001	(18,805,767)
Penelec	3,639,434,152	99,738,752	81,382,218	(18,356,534)
Penn Power	913,642,934	26,122,167	20,735,823	(5,386,344)
West Penn	3,352,419,894	94,700,731	80,390,734	(14,309,997)
TOTAL	**$ 11,178,203,623**	**$ 309,871,418**	**$ 253,012,777**	**$ (56,858,641)**

[4] Exhibit DJG-17; *see also* Exhibits DJG-18 through DJG-23 for detailed depreciation rate calculations and comparisons for the 2023 Study, 2024 Study, and 2025 Study.

Figure 2:
Summary Depreciation Accrual Adjustment – 2024 Study

Rate District	Plant 12/31/2024	FirstEnergy Accrual	OCA Accrual	OCA Adjustment
Met-Ed	3,422,742,802	93,165,394	73,165,980	(19,999,414)
Penelec	3,804,171,384	102,743,641	83,534,847	(19,208,794)
Penn Power	951,417,497	26,639,950	21,226,521	(5,413,429)
West Penn	3,443,611,175	97,346,095	82,437,097	(14,908,998)
TOTAL	**$ 11,621,942,858**	**$ 319,895,080**	**$ 260,364,446**	**$ (59,530,634)**

Figure 3:
Summary Depreciation Accrual Adjustment – 2025 Study

Rate District	Plant 12/31/2025	FirstEnergy Accrual	OCA Accrual	OCA Adjustment
Met-Ed	3,587,269,420	97,029,590	75,664,741	(21,364,849)
Penelec	3,975,917,517	106,498,868	86,512,571	(19,986,297)
Penn Power	1,010,081,809	27,799,609	22,045,653	(5,753,956)
West Penn	3,626,634,708	99,727,866	84,259,311	(15,468,555)
TOTAL	**$ 12,199,903,454**	**$ 331,055,933**	**$ 268,482,276**	**$ (62,573,657)**

The evidence supporting my recommendations is discussed in more detail in my testimony.

III. REGULATORY STANDARDS

Q. Please discuss the standard by which regulated utilities are allowed to recover depreciation expense.

A. In *Lindheimer v. Illinois Bell Telephone Co.*, the U.S. Supreme Court stated "depreciation is the loss, not restored by current maintenance, which is due to all the factors causing the ultimate retirement of the property. These factors embrace wear and tear, decay,

inadequacy, and obsolescence."[5] The *Lindheimer* Court also recognized that the original cost of plant assets, rather than present value or some other measure, is the proper basis for calculating depreciation expense.[6] Moreover, the *Lindheimer* Court found:

> [T]he company has the burden of making a convincing showing that the amounts it has charged to operating expenses for depreciation have not been excessive. That burden is not sustained by proof that its general accounting system has been correct. The calculations are mathematical, but the predictions underlying them are essentially matters of opinion.[7]

Thus, the Commission must ultimately determine if FirstEnergy has met its burden of proof by making a convincing showing that its proposed depreciation rates are not excessive.

A. Depreciation System

Q. Please discuss the definition and general purpose of a depreciation system, as well as the specific depreciation system you employed for this project.

A. The legal standards set forth above do not mandate a specific procedure for conducting depreciation analysis. These standards, however, direct that analysts use a system for estimating depreciation rates that will result in the "systematic and rational" allocation of capital recovery for the utility. Over the years, analysts have developed "depreciation systems" designed to analyze grouped property in accordance with this standard. A depreciation system may be defined by several primary parameters, including: 1) a method

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[5] *Lindheimer v. Illinois Bell Tel. Co.*, 292 U.S. 151, 167 (1934).

[6] *Id*. (Referring to the straight-line method, the *Lindheimer* Court stated that "[a]ccording to the principle of this accounting practice, the loss is computed upon the actual cost of the property as entered upon the books, less the expected salvage, and the amount charged each year is one year's pro rata share of the total amount."). The original cost standard was reaffirmed by the Court in *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591, 606 (1944). The *Hope* Court stated: "Moreover, this Court recognized in [*Lindheimer*], supra, the propriety of basing annual depreciation on cost. By such a procedure the utility is made whole and the integrity of its investment maintained. No more is required."

[7] *Id*. at 169.

of allocation; 2) a procedure for applying the method of allocation; 3) a technique of applying the depreciation rate; and 4) a model for analyzing the characteristics of vintage property groups.[8] In this case, I used the straight-line method, the average life group procedure, the remaining life technique, and the broad group model.[9]

Q. Did both Mr. Spanos and you use the same depreciation system?

A. No. Pertinently, Mr. Spanos used the equal life group ("ELG") procedure instead of the average life group ("ALG") procedure. I discuss the differences between these methods in more detail below.

B. Average Life vs Equal Life Method

Q. Explain the primary difference between the ALG and ELG methods.

A. In the ALG procedure, a constant accrual rate based on the average life of all property in the group is applied to the surviving property.[10] In the ELG procedure, property is divided into subgroups that each have a common life. Pertinently, the ELG procedure results in higher depreciation rates in the early years of a vintage's life. This fact is confirmed by authoritative depreciation literature. According to Wolf:

> When contrasted with the average life procedure, the equal life group procedure results in annual accruals that are higher during the early years and lower in the later years.[11]

The NARUC Public Utility Depreciation Practices also makes the same conclusion about the equal life procedure:

---

[8] *See* Wolf & W. Chester Fitch, Depreciation Systems 70, 140 (Iowa State University Press 1994).
[9] *See* Appendix C for further discussion.

[10] *Id*. at 74-75.
[11] *Id*. at 93 (emphasis added).

> [T]he ELG procedure results in annual accruals that are higher during the early years of a vintage's life, thereby causing an increase in depreciation expense and revenue requirements during these years.[12]

In contrast, use of the average life results in the same depreciation rate applied to each age interval.

Q. Based on your experience in other regulatory jurisdictions and knowledge of the industry, which procedure is more commonly used?

A. In my experience, the ALG procedure is used by analysts and adopted by regulators in the vast majority of jurisdiction and in the vast majority of cases. Moreover, the Company's currently-approved depreciation rates are based on the ALG procedure. The primary driver of the Company's proposed increase to depreciation expense in this case is the switch from the ALG procedure to the ELG procedure proposed by Mr. Spanos.

Q. Does Mr. Spanos typically use the ALG procedure in depreciation studies you have reviewed?

A. In the vast majority of cases in which I have reviewed Mr. Spanos's depreciation studies, he uses the ALG procedure.

Q. Have you successfully argued in favor of the ALG procedure in a case in which Mr. Spanos proposed the ELG procedure in another jurisdiction?

A. Yes. In Duke Energy Indiana's ("DEI") 2020 rate case, the company proposed ELG depreciation rates, which had been adopted by the Indiana commission in previous cases. In that case, I and other parties argued that the ALG procedure should be used. The Indiana Commission found as follows:

---

[12] National Association of Regulatory Utility Commissioners, *Public Utility Depreciation Practices* 176 (NARUC 1996) (emphasis added).

> First, with respect to the question of whether the ELG or ALG method should be used, we find the evidence presented by OUCC witness Mr. Garrett and Industrial Group witness Mr. Andrews persuasive, as both witnesses showed that the ELG method results in unreasonably high depreciation rates. ALG depreciation rates result in systematical and rational cost recovery with near term customer rate relief and full cost recovery of utility investments. While we have determined in the past that the ELG methodology was appropriate and acknowledge the weight given to precedent in many prior decisions, we always evaluate each case as it comes before us and do not need to approve the same methodology based on prior decisions, especially in light of a changed landscape. The use of ELG in a higher than average investment cycle has the effect of unnecessarily increasing the near term depreciation expense as compared to the use of ALG.[13]

In the DEI case, the Commission correctly noted that the ELG procedure can result in unreasonably high depreciation rates. In order for the ELG procedure to be properly applied, a utility would need to revise depreciation each year. However, given the logistical realities involved with prosecuting rate cases, this would be impractical and inefficient. When a utility has made substantial, recent capital investments, depreciation expense calculated under the ELG procedure will always be higher than the expense calculated under the ALG procedure. The larger the amount of the investments, the larger the discrepancy will be between the two procedures. The Indiana commission's criticism of the ELG procedure would also apply here. In this case, the difference in the annual depreciation accrual between the ELG and ALG methods alone is $44 million based on plant balances at the end of the Fully Projected Future Test Year which is December 31, 2025.

[13] Cause No. 45253, Order of the Commission, p. 90, (June 29, 2020).

Q. Are you aware of other Public Utility Commissions that have rejected the use of ELG?

A. Yes. The Kentucky Public Service Commission ("Kentucky PSC") found that the ELG procedure front-loads depreciation expense in earlier years and decreases it in the later years of an asset's depreciation life, creating a mismatch of revenues and expenses. The Kentucky PSC states reasoning for rejecting the ELG is as follows:

> Duke Kentucky proposes, as part of developing its depreciation rates, the continued use of the ELG procedure. The Attorney General recommends the Commission adopt the ALG procedure in developing Duke Kentucky's depreciation rates. The Attorney General contends that the ALG methodology is the predominant method that is used in the electric industry for developing depreciation rates. The Attorney General contends that, under the ELG methodology, the capital recovery periods are accelerated and shortened and, thus, the depreciation rates are greater than if the ALG procedure was used. The Attorney General argues that the ALG procedure is as accurate as the ELG procedure and the ALG procedure smooths the data so that the depreciation rates for the group of assets tend to remain constant. Use of the ALG procedure will result in a decrease in Duke Kentucky's depreciation expense of $6.920 million.
>
> Duke Kentucky requested an increase in depreciation expense of $6.920 million, based on its request to utilize the ELG procedure for computing depreciation rates. As was discussed in the rate base section of this Order, this Commission has found that the ELG procedure does not accurately match revenues and expenses, is front-loaded, and Duke Kentucky is the only Kentucky based utility that utilizes the ELG procedure for computing depreciation rates.
>
> Regulatory accounting requires the proper matching of revenues and expense in order to produce fair, just and reasonable rates. The Commission finds Duke Kentucky's proposed ELG procedure does not meet that criteria and that Duke Kentucky's depreciation expense should be reduced by $6.920 million.[14]

[14] In the Matter of: Electronic Application of Duke Energy Kentucky, Inc., Kentucky PSC, Order at pages 26 27, Case No. 2017-00321, (https://psc.ky.gov/pscscf/2017%20Cases/2017-00321//20180413_PSC_ORDER.pdf).

Q. Please provide an example of how the ELG procedure results in higher depreciation rates in earlier years relative to the ALG procedure.

A. For the following illustration, assume a group of property containing two units, one with an original cost of $4,000 and a 4-year life and the second with an original cost of $6,000 and an 8-year life.[15] Thus, the average life of this group is 6.4 years.[16] Under the ALG procedure, the depreciation rate is 15.625% per year (1/6.4 = 15.625%). The following table illustrates this example.

Figure 1:
ALG Procedure

Year	Balance	Retired	Rate	Annual Accrual	Accum. Deprec.
1974	10000		15.625%	1563	0
1975	10000		15.625%	1563	1563
1976	10000		15.625%	1563	3125
1977	10000	4000	15.625%	1563	4688
1978	6000		15.625%	938	2250
1979	6000		15.625%	938	3188
1980	6000		15.625%	938	4125
1981	6000	6000	15.625%	938	5063
1982	0				0

As shown in the annual accrual column above, the full $10,000 is depreciated after eight years. Now, considering the same assumptions presented above, the following tables illustrate the same scenario except that the rate is calculated under the ELG procedure.

[15] *See* Wolf & W. Chester Fitch, Depreciation Systems 82 (Iowa State University Press 1994).
[16] AL = [($4,000 x 4) + ($6,000 x 8)] / $10,000 = 6.4 years.

Figure 2:
ELG Procedure

Year	Balance	Retired	Rate	Annual Accrual	Accum. Deprec.
1974	10000		17.50%	1750	0
1975	10000		17.50%	1750	1750
1976	10000		17.50%	1750	3500
1977	10000	4000	17.50%	1750	5250
1978	6000		12.50%	750	3000
1979	6000		12.50%	750	3750
1980	6000		12.50%	750	4500
1981	6000	6000	12.50%	750	5250
1982	0				0

As with the ALG example presented above, the full $10,000 investment is still fully depreciated after eight years. However, there are higher rate and accrual amounts during the earlier years. The reason there is a 17.5% depreciation rate instead of a 15.625% depreciation rate in the early years is because the two units in this group are treated separately under the ELG procedure. The following table shows how the rates in this example are calculated.

Figure 3:
ELG Rate Development

				Annual Accrual	
Group	Group Amount	Group Life	Group Rate	1974-77	1978-81
A	4000	4	25.00%	1000	
B	6000	8	12.50%	750	750
Annual accruals				1750	750
Balance during interval				10000	6000
Annual accrual rate %				17.50%	12.50%

This example is simplified in an attempt to explain the complexities of the ELG procedure. In this example, the higher rate of 17.5% stayed the same for four years because there are only two units in this simple example, and the rate drops to 12.5% after the first unit retires.

Q. Please summarize your recommendation regarding the depreciation system that should be used to calculate the Company's depreciation rates.

A. As demonstrated above, the ALG procedure results in a fairer application of depreciation rates compared to the ELG procedure given the realities of ratemaking proceedings. Mr. Spanos's decision to switch to the ELG procedure in this case unnecessarily increases the ***annual*** depreciation accrual charged to customers by approximately $1.6 million. In other words, even if no other adjustments are made to the depreciation study except the adoption of the majority-view ALG procedure, it would result in a decrease of $1.6 million to the Company's proposed annual depreciation accrual. The Commission should adopt my proposed depreciation rates, which were calculated using the ALG procedure.

IV. SERVICE LIFE ANALYSIS

Q. Describe the methodology used to estimate the service lives of grouped depreciable assets.

A. The process used to study industrial property retirement is rooted in the actuarial process used to study human mortality. Just as actuarial analysts study historical human mortality data to predict how long a group of people will live, depreciation analysts study historical plant data to estimate the average lives of property groups. The most common actuarial method used by depreciation analysts is called the "retirement rate method." In the retirement rate method, original property data, including additions, retirements, transfers,

and other transactions, are organized by vintage and transaction year.[17] The retirement rate method is ultimately used to develop an "observed life table," ("OLT") which shows the percentage of property surviving at each age interval. This pattern of property retirement is described as a "survivor curve." The survivor curve derived from the observed life table, however, must be fitted and smoothed with a complete curve in order to determine the ultimate average life of the group.[18] The most widely used survivor curves for this curve fitting process were developed at Iowa State University in the early 1900s and are commonly known as the "Iowa curves."[19] A more detailed explanation of how the Iowa curves are used in the actuarial analysis of depreciable property is set forth in Appendix C.

Q. Describe how you analyzed FirstEnergy's historical retirement data in order to determine the most reasonable Iowa curve to apply to each account.

A. The Company's aged property data is used to create OLTs for each account. The data points on the OLT can be plotted to form a curve (the "OLT curve"). The OLT curve is not a theoretical curve; rather, it is actual observed data from the Company's records that indicate the rate of retirement for each property group. An OLT curve by itself, however, is rarely a smooth curve, and is often not a "complete" curve (i.e., it does not end at zero percent surviving). In order to calculate average life (the area under a curve), a complete survivor curve is required. The Iowa curves are empirically derived curves based on the extensive studies of the actual mortality patterns of many different types of industrial

[17] The "vintage" year refers to the year that a group of property was placed in service (aka "placement" year). The "transaction" year refers to the accounting year in which a property transaction occurred, such as an addition, retirement, or transfer (aka "experience" year).

[18] *See* Appendix C for a more detailed discussion of the actuarial analysis used to determine the average lives of grouped industrial property.

[19] *See* Appendix B for a more detailed discussion of the Iowa curves.

property. The curve-fitting process involves selecting the best Iowa curve to fit the OLT curve. This can be accomplished through a combination of visual and mathematical curve-fitting techniques, as well as professional judgment.

Q. Is mathematical fitting an important part of the curve-fitting process?

A. Yes. Mathematical curve fitting promotes objective, unbiased results. While mathematical curve-fitting is important, it may not always yield the optimum result. Simply determining which Iowa curve best fits an OLT curve ignores professional judgment that may be needed for specific situations. For example, if there is insufficient historical data in a particular account and the OLT curve derived from that data is relatively short and flat, the mathematically "best" curve may be one with a very long average life. However, when there is sufficient data available, mathematical curve fitting can be used as part of an objective service life analysis.

Q. Should every portion of the OLT curve be given equal weight?

A. Not necessarily. Many analysts have observed that the points towards the end of OLT curves may often have less analytical value than other portions of the curve. Indeed, "[p]oints at the end of the curve are often based on fewer exposures and may be given less weight than points based on larger samples. The weight placed on those points will depend on the size of the exposures."[20] In accordance with this standard, an analyst may decide to truncate the tail end of the OLT curve at a certain percent of initial exposures, such as one percent. Using this approach puts greater emphasis on the most valuable portions of the curve. For my analysis in this case, I not only considered the entirety of the OLT curve,

[20] Wolf & W. Chester Fitch, Depreciation Systems 46 (Iowa State University Press 1994).

but also conducted further analyses that involved fitting Iowa curves to the most significant part of the OLT curve for certain accounts.

Q. Are you recommending service life adjustments in this case based on the following analyses?

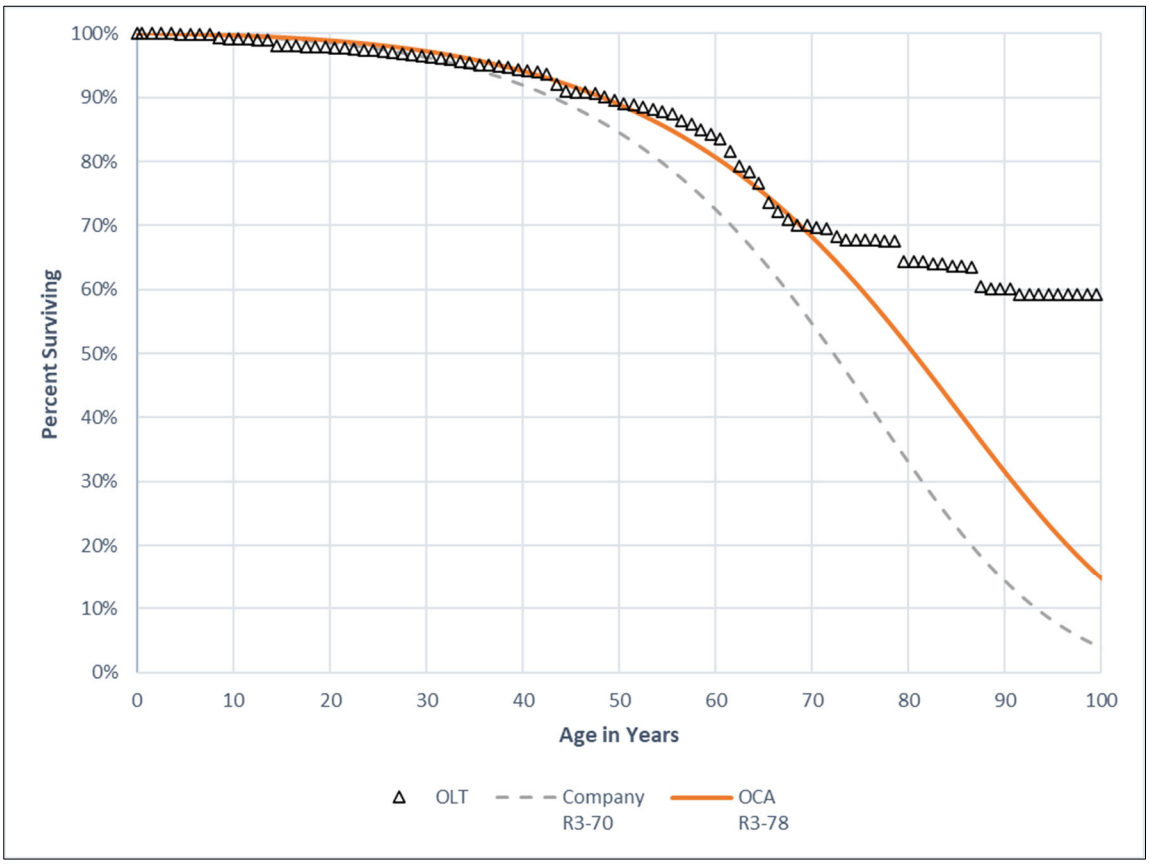
A. No. While the following analyses will demonstrate that the Company's proposed service lives for these accounts are underestimated (which causes the depreciation rate to be overestimated), in this particular case I am not recommending any actual service life adjustments. This is because I believe it is much more important for the Commission to focus on the ALG vs ELG issue and limit the accelerated form of cost recovery that would unfairly burden customers under the ELG procedure proposed by Mr. Spanos. Regardless, the following discussion further highlights that the Company's proposed depreciation rates should not be accepted without adjustments, as doing so would result in unreasonably high depreciation expense for customers. I use one account from each of the Rate Districts as an example.

A. Met-Ed Account 362.00 – Station Equipment

Q. Please describe your service life estimate for this account and compare it with the Company's estimate.

A. The observed survivor curve (OLT curve) derived from the Company's data for this account is presented in the graph below. The graph also shows the Iowa curves Mr. Spanos and I selected to represent the average remaining life of the assets in this account. For this account, Mr. Spanos selected the R3-70 Iowa curve, and I selected the R3-78 Iowa curve. Thus, both curves have the same shape, but with a nine-year difference in average life.

Figure 4:
Account 362.00 – Overhead Conductors and Devices



As shown in this graph, it is clear the Iowa curve selected by Mr. Spanos results in a retirement pattern that is notably shorter than the retirement pattern derived from the Company's actual data. Some of the data points toward the end of this OLT curve are arguably less relevant for statistical analyses, so in that regard it is reasonable to select an Iowa curve that does not attempt to fit all of these data points as closely as possible. However, the Iowa curve selected by Mr. Spanos does not give enough credit to relevant data points in the middle portion of this OLT curve, and as a result, his service life for this account is underestimated in my opinion. Mathematical curve fitting techniques can be used to further assess the results.

Q. Does the Iowa curve you selected result in a better fit to the OLT curve?

A. Yes. While visual curve-fitting techniques can help identify the most statistically relevant portions of the OLT curve for this account, mathematical curve-fitting techniques can also help us determine which of the proposed Iowa curves results in the closest fit. In circumstances in which there is an adequate amount of retirement experience (i.e., the OLT curve is long enough) and there is no significant evidence presented beyond the statistical data to justify a meaningful deviation from the retirement pattern indicated in the OLT curve, then mathematical curve fitting results should arguably be given more consideration in the curve selection process. Mathematical curve-fitting essentially involves measuring the "distance" between the OLT curve and the selected Iowa curve. The best mathematically-fitting curve is the one that minimizes the distance between the OLT curve and the Iowa curve, thus providing the closest fit. Professional judgment is also used to ensure that the selected Iowa curve is not unreasonable based on industry norms. The distance between the curves is calculated using the "sum-of-squared differences" ("SSD") technique. In this account, the SSD between the Company's curve and the OLT curve is 10.9563, and the SSD between the R3-78 Iowa curve I selected and the OLT curve is 6.8818, which means it results in the closer fit.[21]

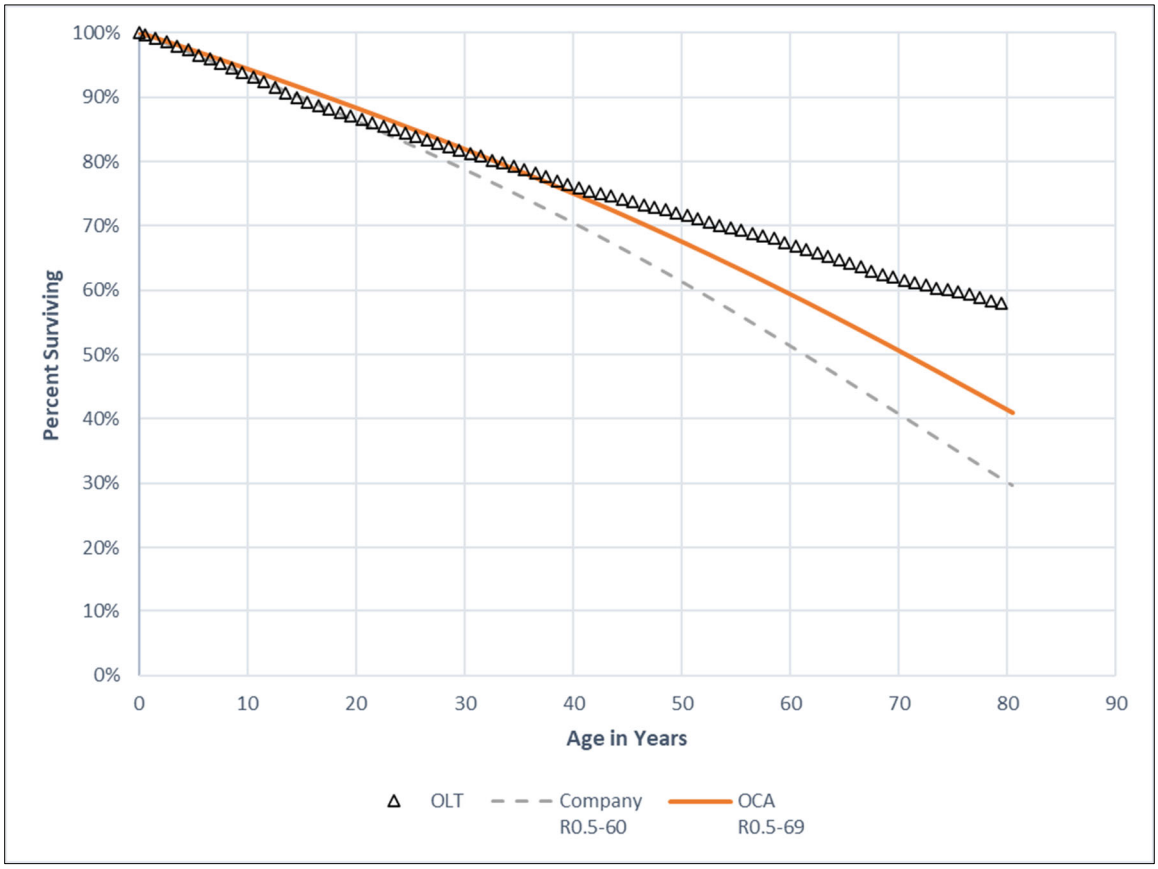
[21] Exhibit DJG-9.

B. Penelec Account 365.00 – Overhead Conductors and Devices

Q. Please describe your service life estimate for this account and compare it with the Company's estimate.

A. For this Account, Mr. Spanos selected the R0.5-60 curve, and I selected the R0.5-69 curve. Both of these Iowa curves are displayed in the following graph with the OLT curve.

Figure 5:
Account 365.00 – Overhead Conductors and Devices



It is clear that the Iowa curve selected by Mr. Spanos does not give enough statistical consideration to many relevant data points in the middle portion of the OLT curve for this account. While a 60-year average life estimate for overhead conduct may generally be within a reasonable range for this account in the industry, it is clear that Penelec's

company-specific retirement data is indicating a longer average life at this time. In my opinion, this data should be the primary factor on which to base a service life estimate in this case. According, I believe Mr. Spanos's proposed service life for this account is too short, and consequently, his proposed depreciation rate is too high.

Q. Does the Iowa curve you selected result in a better fit to the OLT curve?

Yes. The SSD between the Company's curve and the OLT curve is 1.1842, and the SSD between the R0.5-69 curve I selected and the OLT curve is 0.3339, which means it results in the closer fit to the observed retirement data.[22]

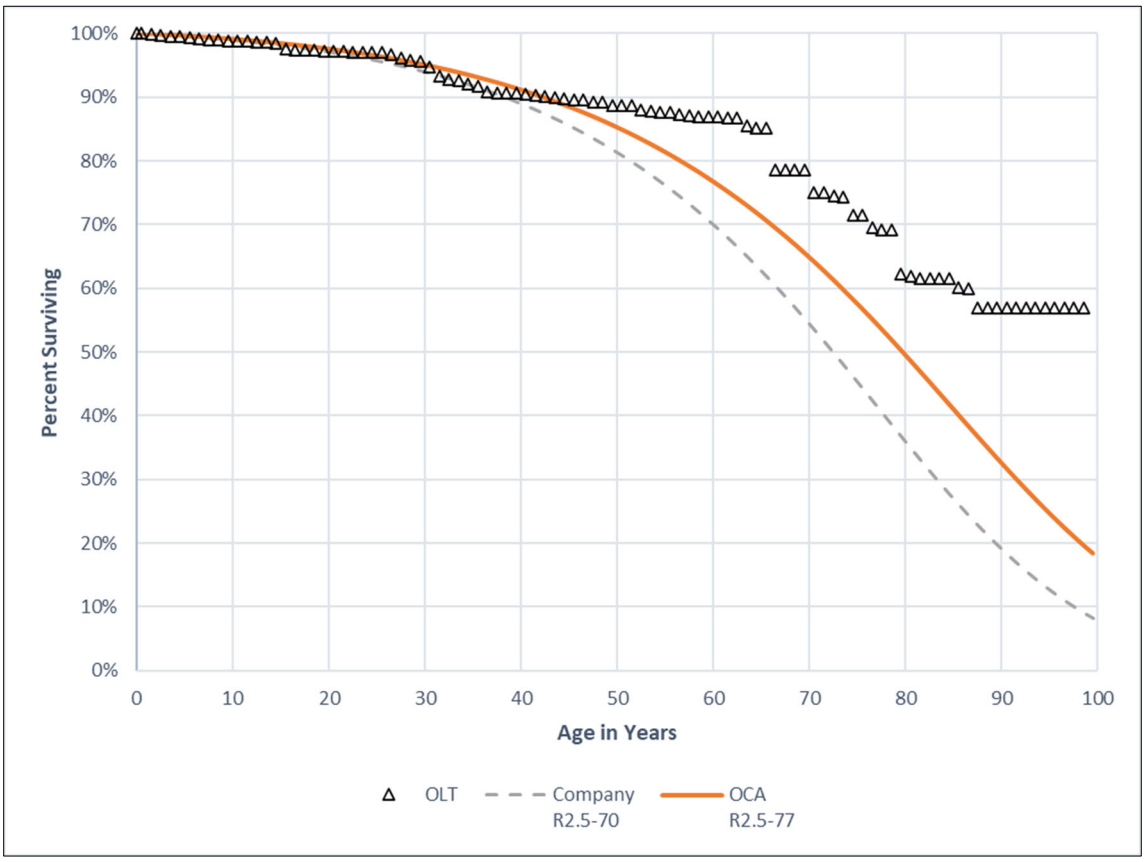
C. Penn Power Account 366 – Underground Conduit

Q. Please describe your service life estimate for this account and compare it with the Company's estimate.

A. For this Account, Mr. Spanos selected the R2.5-70 curve, and I selected the R2.5-77 curve. Both of these Iowa curves are displayed in the following graph with the OLT curve.

[22] Exhibit DJG-10.

Figure 6:
Penn Power Account 366 – Underground Conduit



Attempting to select an Iowa curve that results in a near-perfect fit to the OLT curve for this account runs the risk of resulting in an unreasonably long service life, especially considering that the data points towards the end of this OLT curve are arguably less relevant from a statistical standpoint. Regardless, the OLT curve is the only tangible evidence provided by the Company to support its proposed service life for this account, and this evidence indicates a longer average service life than the one proposed by Mr. Spanos. In that regard, the R2.5-77 Iowa curve is more supported by the evidence presented for this account. The results can be confirmed with mathematical curve fitting.

Q. Does the Iowa curve you selected result in a better fit to the OLT curve?

Yes. The SSD between the Company's curve and the OLT curve is 4.0650, and the SSD between the R2.5-77 curve I selected and the OLT curve is 1.6555, which means it results in the closer fit to the observed retirement data.[23]

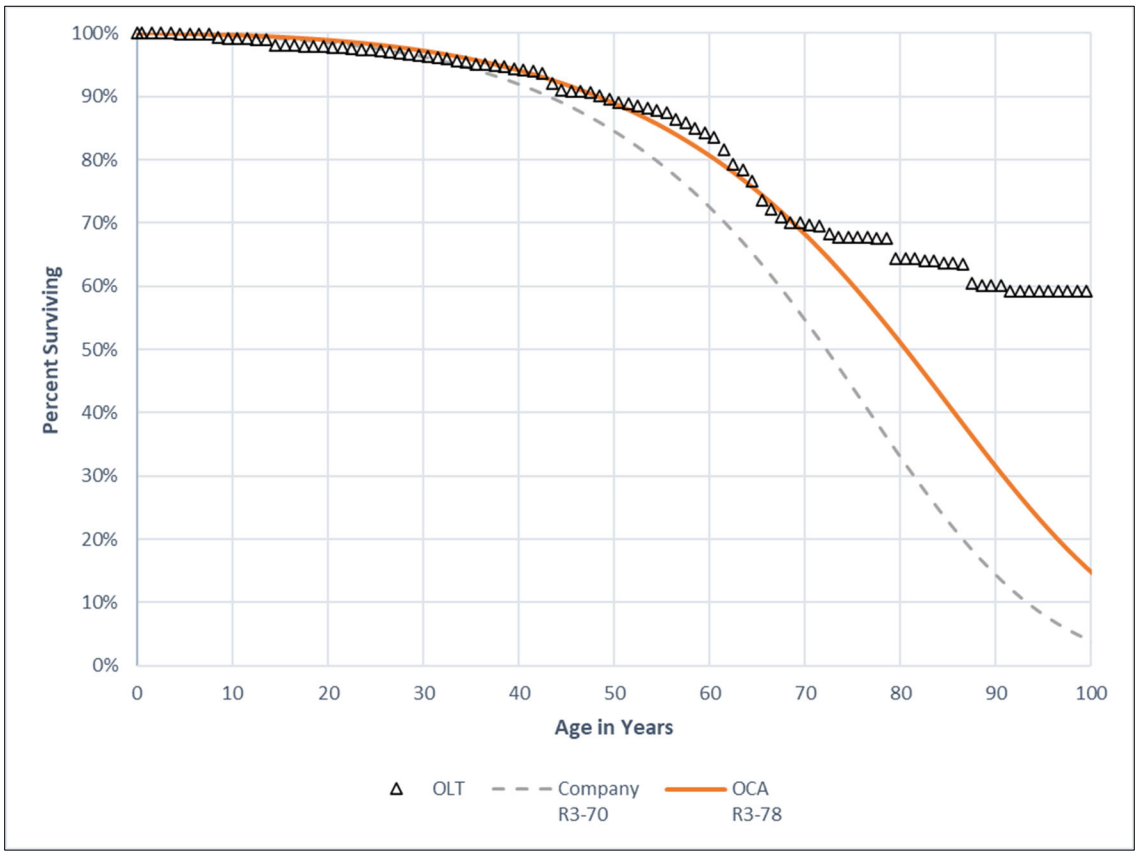
D. West Penn Account 361 – Structures and Improvements

Q. Please describe your service life estimate for this account and compare it with the Company's estimate.

A. For this Account, Mr. Spanos selected the R3-70 curve, and I selected the R3-78 curve. Both of these Iowa curves are displayed in the following graph with the OLT curve.

[23] Exhibit DJG-11.

Figure 7:
Account 361 – Structures and Improvements



As with the other accounts discussed above, the Iowa curve selected by Mr. Spanos is clearly shorter than the average life otherwise indicated in the retirement pattern derived from the Company's own historical plant data. Since no other evidence was provided beyond the historical retirement data, the R3-78 curve would be a more accurate service life estimate for this account based on the evidence presented.

Q. Does the Iowa curve you selected result in a better fit to the OLT curve?

Yes. The SSD between the Company's curve and the OLT curve is 10.9563, and the SSD between the R3-78 curve I selected and the OLT curve is 6.8818, which means it results in the closer fit to the observed retirement data.[24]

V. DEPRECIATION CONCLUSION

Q. Please reiterate your recommendation regarding the Company's proposed depreciation rates.

A. The Company is proposing a significant overall increase to the annual depreciation accrual of its Rate Districts in the amount of $52.8 million, which represents an increase of about 20%.[25] The primary driver of the Company's proposed increase to depreciation expense in this case is the switch from the ALG procedure to the ELG procedure proposed by Mr. Spanos, which results in a form of accelerated depreciation that unfairly burdens current customers. My proposed depreciation rates are calculated using the majority-view ALG procedure, and they result in fairer depreciation rates. I have also demonstrated that the service lives proposed by Mr. Spanos for several accounts are shorter than what the Company's retirement data indicates; this results in unreasonably high depreciation expense. However, I am not recommending any service life adjustments in this case because I believe it is much more important for the Commission to reject the ELG procedure proposed by the Company in favor of the ALG procedure on which my proposed depreciation rates are based. However, the Company's underestimated service lives further

[24] Exhibit DJG-12.

[25] *See* response to OCA VII-9, Attachments A-D; based on plant balances at December 31, 2025.

highlight that the Commission should not accept the Company's proposed depreciation rates without adjustments.

Q. Does this conclude your testimony?

A. Yes.

APPENDIX A:

THE DEPRECIATION SYSTEM

A depreciation accounting system may be thought of as a dynamic system in which estimates of life and salvage are inputs to the system, and the accumulated depreciation account is a measure of the state of the system at any given time.[1] The primary objective of the depreciation system is the timely recovery of capital. The process for calculating the annual accruals is determined by the factors required to define the system. A depreciation system should be defined by four primary factors: 1) a method of allocation; 2) a procedure for applying the method of allocation to a group of property; 3) a technique for applying the depreciation rate; and 4) a model for analyzing the characteristics of vintage groups comprising a continuous property group.[2] The figure below illustrates the basic concept of a depreciation system and includes some of the available parameters.[3]

There are hundreds of potential combinations of methods, procedures, techniques, and models, but in practice, analysts use only a few combinations. Ultimately, the system selected must result in the systematic and rational allocation of capital recovery for the utility. Each of the four primary factors defining the parameters of a depreciation system is discussed further below.

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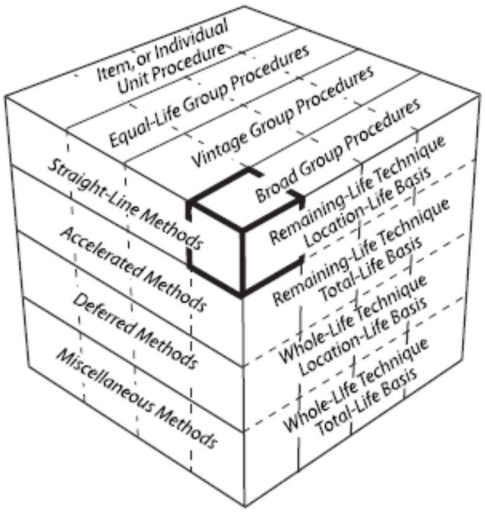
[1] Wolf & W. Chester Fitch, Depreciation Systems 69-70 (Iowa State University Press 1994).

[2] *Id.* at 70, 139–40.

[3] Edison Electric Institute, *Introduction to Depreciation* (inside cover) (EEI April 2013). Some definitions of the terms shown in this diagram are not consistent among depreciation practitioners and literature because depreciation analysis is a relatively small and fragmented field. This diagram simply illustrates some of the available parameters of a depreciation system.

Figure 1:
The Depreciation System Cube



1. Allocation Methods

The "method" refers to the pattern of depreciation in relation to the accounting periods. The method most commonly used in the regulatory context is the "straight-line method"—a type of age-life method in which the depreciable cost of plant is charged in equal amounts to each accounting period over the service life of plant.[4] Because group depreciation rates and plant balances often change, the amount of the annual accrual rarely remains the same, even when the straight-line method is employed.[5] The basic formula for the straight-line method is as follows:[6]

[4] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices 56 (NARUC 1996).

[5] *Id*.

[6] *Id*.

Equation 1:
Straight-Line Accrual

$$Annual\ Accrual = \frac{Gross\ Plant - Net\ Salavage}{Service\ Life}$$

Gross plant is a known amount from the utility's records, while both net salvage and service life must be estimated to calculate the annual accrual. The straight-line method differs from accelerated methods of recovery, such as the "sum-of-the-years-digits" method and the "declining balance" method. Accelerated methods are primarily used for tax purposes and are rarely used in the regulatory context for determining annual accruals.[7] In practice, the annual accrual is expressed as a rate which is applied to the original cost of plant to determine the annual accrual in dollars. The formula for determining the straight-line rate is as follows:[8]

Equation 2:
Straight-Line Rate

$$Depreciation\ Rate\ \% = \frac{100 - Net\ Salvage\ \%}{Service\ Life}$$

2. Grouping Procedures

The "procedure" refers to the way the allocation method is applied through subdividing the total property into groups.[9] While single units may be analyzed for depreciation, a group plan of depreciation is particularly adaptable to utility property. Employing a grouping procedure allows for a composite application of depreciation rates to groups of similar property, rather than conducting calculations for each unit. Whereas an individual unit of property has a single life, a group of property displays a dispersion of lives and the life characteristics of the group must be

[7] *Id*. at 57.

[8] *Id*. at 56.

[9] Wolf *supra* n. 1, at 74-75.

described statistically.[10] When analyzing mass property categories, it is important that each group contains homogenous units of plant that are used in the same general manner throughout the plant and operated under the same general conditions.[11]

The "average life" and "equal life" grouping procedures are the two most common. In the average life procedure, a constant annual accrual rate based on the average life of all property in the group is applied to the surviving property. While property having shorter lives than the group average will not be fully depreciated, and likewise, property having longer lives than the group average will be over-depreciated, the ultimate result is that the group will be fully depreciated by the time of the final retirement.[12] Thus, the average life procedure treats each unit as though its life is equal to the average life of the group. By contrast, the equal life procedure treats each unit in the group as though its life was known.[13] Under the equal life procedure the property is divided into subgroups that each has a common life.[14]

3. Application Techniques

The third factor of a depreciation system is the "technique" for applying the depreciation rate. There are two commonly used techniques: "whole life" and "remaining life." The whole life technique applies the depreciation rate on the estimated average service life of a group, while the remaining life technique seeks to recover undepreciated costs over the remaining life of the plant.[15]

In choosing the application technique, consideration should be given to the proper level of the accumulated depreciation account. Depreciation accrual rates are calculated using estimates

[10] *Id*. at 74.

[11] NARUC *supra* n. 4, at 61–62.

[12] Wolf *supra* n. 1, at 74-75.

[13] *Id*. at 75.

[14] *Id*.

[15] NARUC *supra* n. 4, at 63–64.

of service life and salvage. Periodically these estimates must be revised due to changing conditions, which cause the accumulated depreciation account to be higher or lower than necessary. Unless some corrective action is taken, the annual accruals will not equal the original cost of the plant at the time of final retirement.[16] Analysts can calculate the level of imbalance in the accumulated depreciation account by determining the "calculated accumulated depreciation," (a.k.a. "theoretical reserve" and referred to in these appendices as "CAD"). The CAD is the calculated balance that would be in the accumulated depreciation account at a point in time using current depreciation parameters.[17] An imbalance exists when the actual accumulated depreciation account does not equal the CAD. The choice of application technique will affect how the imbalance is dealt with.

Use of the whole life technique requires that an adjustment be made to accumulated depreciation after calculation of the CAD. The adjustment can be made in a lump sum or over a period of time. With use of the remaining life technique, however, adjustments to accumulated depreciation are amortized over the remaining life of the property and are automatically included in the annual accrual.[18] This is one reason that the remaining life technique is popular among practitioners and regulators. The basic formula for the remaining life technique is as follows:[19]

[16] Wolf *supra* n. 1, at 83.

[17] NARUC *supra* n. 4, at 325.

[18] NARUC *supra* n. 4, at 65 ("The desirability of using the remaining life technique is that any necessary adjustments of [accumulated depreciation] . . . are accrued automatically over the remaining life of the property. Once commenced, adjustments to the depreciation reserve, outside of those inherent in the remaining life rate would require regulatory approval.").

[19] *Id*. at 64.

Equation 3:
Remaining Life Accrual

$$Annual\ Accrual = \frac{Gross\ Plant - Accumulated\ Depreciation - Net\ Salvage}{Average\ Remaining\ Life}$$

The remaining life accrual formula is similar to the basic straight-line accrual formula above with two notable exceptions. First, the numerator has an additional factor in the remaining life formula: the accumulated depreciation. Second, the denominator is "average remaining life" instead of "average life." Essentially, the future accrual of plant (gross plant less accumulated depreciation) is allocated over the remaining life of plant. Thus, the adjustment to accumulated depreciation is "automatic" in the sense that it is built into the remaining life calculation.[20]

4. Analysis Model

The fourth parameter of a depreciation system, the "model," relates to the way of viewing the life and salvage characteristics of the vintage groups that have been combined to form a continuous property group for depreciation purposes.[21] A continuous property group is created when vintage groups are combined to form a common group. Over time, the characteristics of the property may change, but the continuous property group will continue. The two analysis models used among practitioners, the "broad group" and the "vintage group," are two ways of viewing the life and salvage characteristics of the vintage groups that have been combined to form a continuous property group.

The broad group model views the continuous property group as a collection of vintage groups that each have the same life and salvage characteristics. Thus, a single survivor curve and a single salvage schedule are chosen to describe all the vintages in the continuous property group.

[20] Wolf *supra* n. 1, at 178.

[21] *See* Wolf *supra* n. 1, at 139 (I added the term "model" to distinguish this fourth depreciation system parameter from the other three parameters).

By contrast, the vintage group model views the continuous property group as a collection of vintage groups that may have different life and salvage characteristics. Typically, there is not a significant difference between vintage group and broad group results unless vintages within the applicable property group experienced dramatically different retirement levels than anticipated in the overall estimated life for the group. For this reason, many analysts utilize the broad group procedure because it is more efficient.

APPENDIX B:

IOWA CURVES

Early work in the analysis of the service life of industrial property was based on models that described the life characteristics of human populations.[1] This history explains why the word "mortality" is often used in the context of depreciation analysis. In fact, a group of property installed during the same accounting period is analogous to a group of humans born during the same calendar year. Each period the group will incur a certain fraction of deaths / retirements until there are no survivors. Describing this pattern of mortality is part of actuarial analysis and is regularly used by insurance companies to determine life insurance premiums. The pattern of mortality may be described by several mathematical functions, particularly the survivor curve and frequency curve. Each curve may be derived from the other so that if one curve is known, the other may be obtained. A survivor curve is a graph of the percent of units remaining in service expressed as a function of age.[2] A frequency curve is a graph of the frequency of retirements as a function of age. Several types of survivor and frequency curves are illustrated in the figures below.

1. Development

The survivor curves used by analysts today were developed over several decades from extensive analysis of utility and industrial property. In 1931, Edwin Kurtz and Robley Winfrey used extensive data from a range of 65 industrial property groups to create survivor curves representing the life characteristics of each group of property.[3] They generalized the 65 curves into 13 survivor curve types and published their results in *Bulletin 103: Life Characteristics of Physical Property*. The 13 type curves were designed to be used as valuable aids in forecasting

[1] Wolf & W. Chester Fitch, Depreciation Systems 276 (Iowa State University Press 1994).

[2] *Id*. at 23.

[3] *Id*. at 34.

probable future service lives of industrial property. Over the next few years, Winfrey continued gathering additional data, particularly from public utility property and expanded the examined property groups from 65 to 176.[4] This research resulted in 5 additional survivor curve types for a total of 18 curves. In 1935, Winfrey published *Bulletin 125: Statistical Analysis of Industrial Property Retirements*. According to Winfrey, "[t]he 18 type curves are expected to represent quite well all survivor curves commonly encountered in utility and industrial practices."[5] These curves are known as the "Iowa curves" and are used extensively in depreciation analysis in order to obtain the average service lives of property groups. (Use of Iowa curves in actuarial analysis is further discussed in Appendix C.)

In 1942, Winfrey published *Bulletin 155: Depreciation of Group Properties*. In Bulletin 155, Winfrey made some slight revisions to a few of the 18 curve types, and published the equations, tables of the percent surviving, and probable life of each curve at five-percent intervals.[6] Rather than using the original formulas, analysts typically rely on the published tables containing the percentages surviving. This reliance is necessary because, absent knowledge of the integration technique applied to each age interval, it is not possible to recreate the exact original published table values. In the 1970s, John Russo collected data from over 2,000 property accounts reflecting observations during the period 1965 – 1975 as part of his Ph.D. dissertation at Iowa State. Russo essentially repeated Winfrey's data collection, testing, and analysis methods used to develop the original Iowa curves, except that Russo studied industrial property in service several decades after

[4] *Id*.

[5] Robley Winfrey, *Bulletin 125: Statistical Analyses of Industrial Property Retirements* 85, Vol. XXXIV, No. 23 (Iowa State College of Agriculture and Mechanic Arts 1935).

[6] Robley Winfrey, Bulletin 155: Depreciation of Group Properties 121-28, Vol XLI, No. 1 (The Iowa State College Bulletin 1942); see also Wolf supra n.7, at 305–38 (publishing the percent surviving for each Iowa curve, including "O" type curve, at one percent intervals).

Winfrey published the original Iowa curves. Russo drew three major conclusions from his research:[7]

1. No evidence was found to conclude that the Iowa curve set, as it stands, is not a valid system of standard curves;

2. No evidence was found to conclude that new curve shapes could be produced at this time that would add to the validity of the Iowa curve set; and

3. No evidence was found to suggest that the number of curves within the Iowa curve set should be reduced.

Prior to Russo's study, some had criticized the Iowa curves as being potentially obsolete because their development was rooted in the study of industrial property in existence during the early 1900s. Russo's research, however, negated this criticism by confirming that the Iowa curves represent a sufficiently wide range of life patterns and that, though technology will change over time, the underlying patterns of retirements remain constant and can be adequately described by the Iowa curves.[8]

Over the years, several more curve types have been added to Winfrey's 18 Iowa curves. In 1967, Harold Cowles added four origin-modal curves. In addition, a square curve is sometimes used to depict retirements which are all planned to occur at a given age. Finally, analysts commonly rely on several "half curves" derived from the original Iowa curves. Thus, the term "Iowa curves" could be said to describe up to 31 standardized survivor curves.

2. Classification

The Iowa curves are classified by three variables: modal location, average life, and variation of life. First, the mode is the percent life that results in the highest point of the frequency

[7] *See* Wolf *supra* n. 1, at 37.

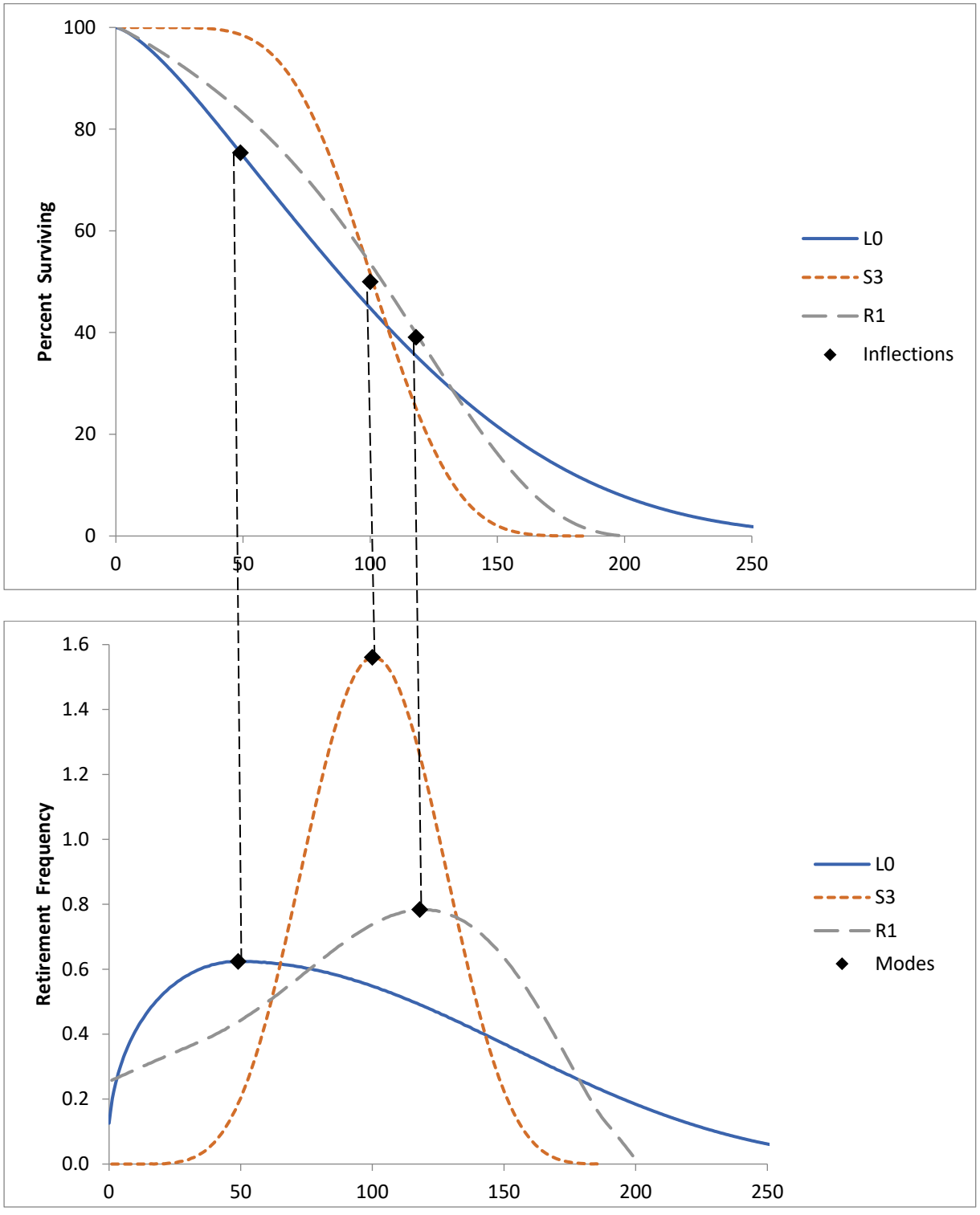
[8] *Id*.

curve and the "inflection point" on the survivor curve. The modal age is the age at which the greatest rate of retirement occurs. As illustrated in the figure below, the modes appear at the steepest point of each survivor curve in the top graph, as well as the highest point of each corresponding frequency curve in the bottom graph.

The classification of the survivor curves was made according to whether the mode of the retirement frequency curves was to the left, to the right, or coincident with average service life. There are three modal "families" of curves: six left modal curves (L0, L1, L2, L3, L4, L5); five right modal curves (R1, R2, R3, R4, R5); and seven symmetrical curves (S0, S1, S2, S3, S4, S5, S6).[9] In the figure below, one curve from each family is shown: L0, S3 and R1, with average life at 100 on the x-axis. It is clear from the graphs that the modes for the L0 and R1 curves appear to the left and right of average life respectively, while the S3 mode is coincident with average life.

[9] In 1967, Harold A. Cowles added four origin-modal curves known as "O type" curves. There are also several "half" curves and a square curve, so the total amount of survivor curves commonly called "Iowa" curves is about 31.

Figure 1:
Modal Age Illustration



The second Iowa curve classification variable is average life. The Iowa curves were designed using a single parameter of age expressed as a percent of average life instead of actual age. This design was necessary for the curves to be of practical value. As Winfrey notes:

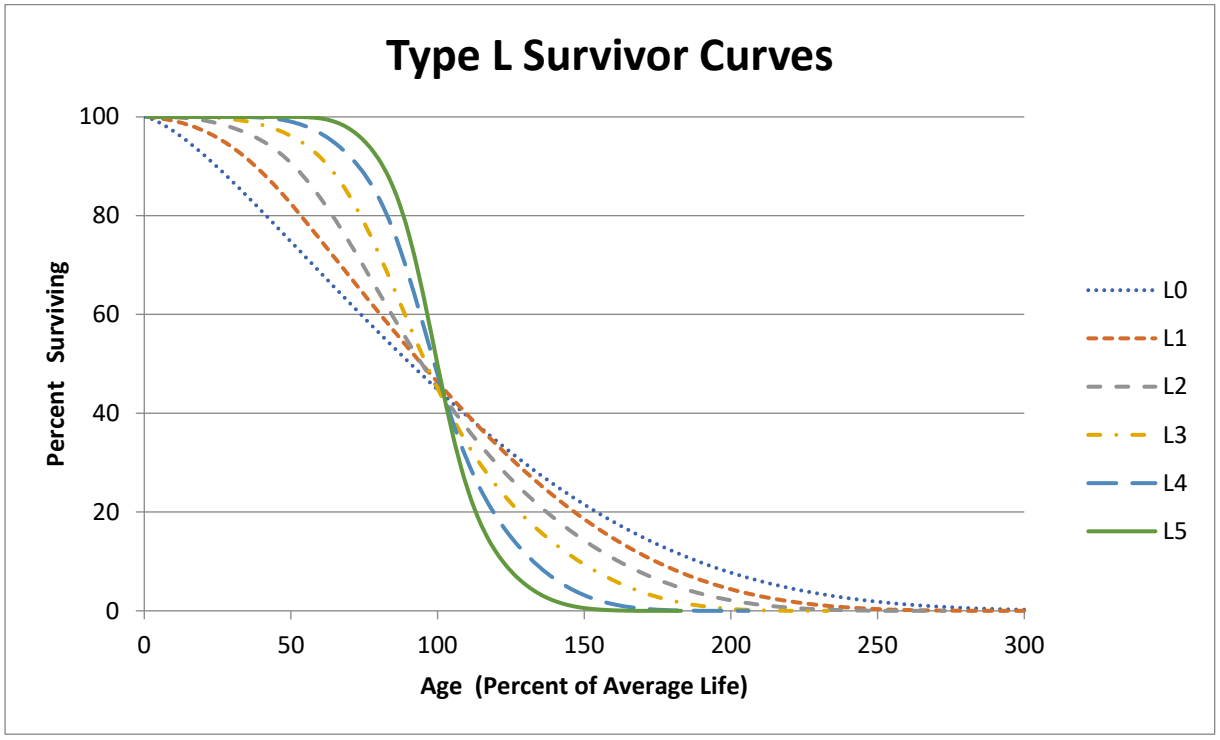
> Since the location of a particular survivor on a graph is affected by both its span in years and the shape of the curve, it is difficult to classify a group of curves unless one of these variables can be controlled. This is easily done by expressing the age in percent of average life."[10]

Because age is expressed in terms of percent of average life, any particular Iowa curve type can be modified to forecast property groups with various average lives.

The third variable, variation of life, is represented by the numbers next to each letter. A lower number (e.g., L1) indicates a relatively low mode, large variation, and large maximum life; a higher number (e.g., L5) indicates a relatively high mode, small variation, and small maximum life. All three classification variables – modal location, average life, and variation of life – are used to describe each Iowa curve. For example, a 13-L1 Iowa curve describes a group of property with a 13-year average life, with the greatest number of retirements occurring before (or to the left of) the average life, and a relatively low mode. The graphs below show these 18 survivor curves, organized by modal family.

[10] Winfrey *supra* n. 6, at 60.

Figure 2:
Type L Survivor and Frequency Curves



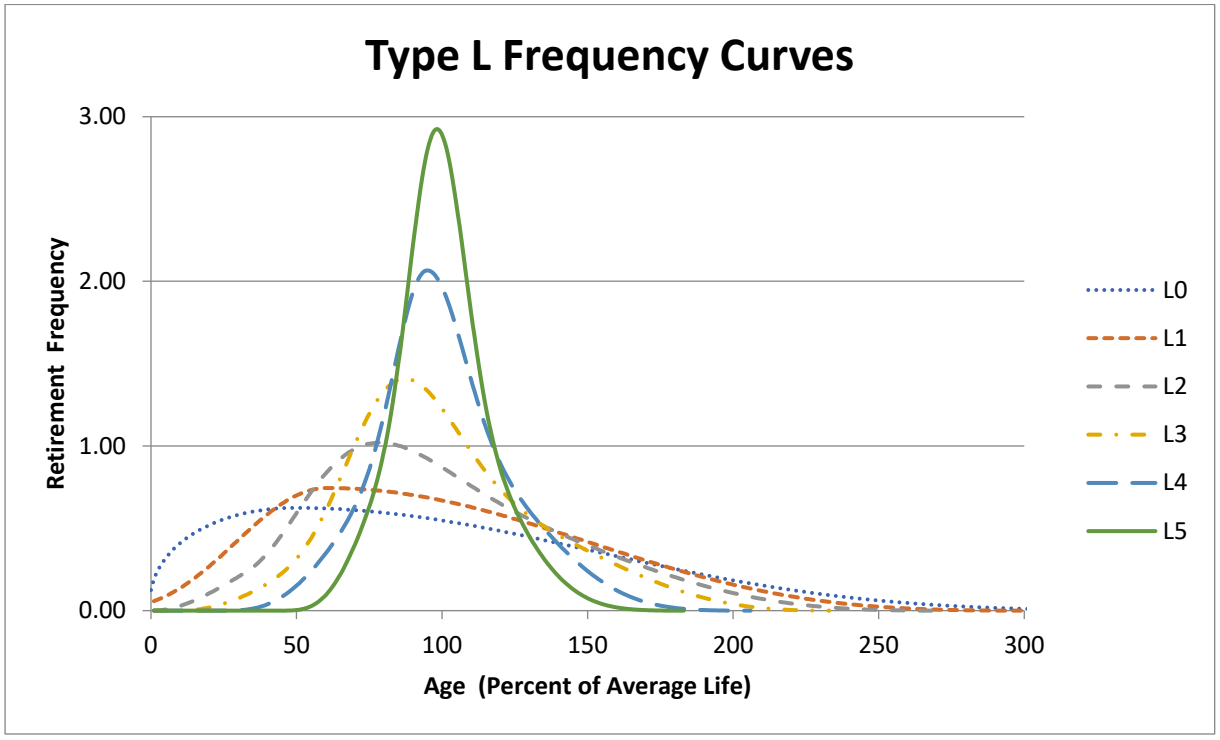
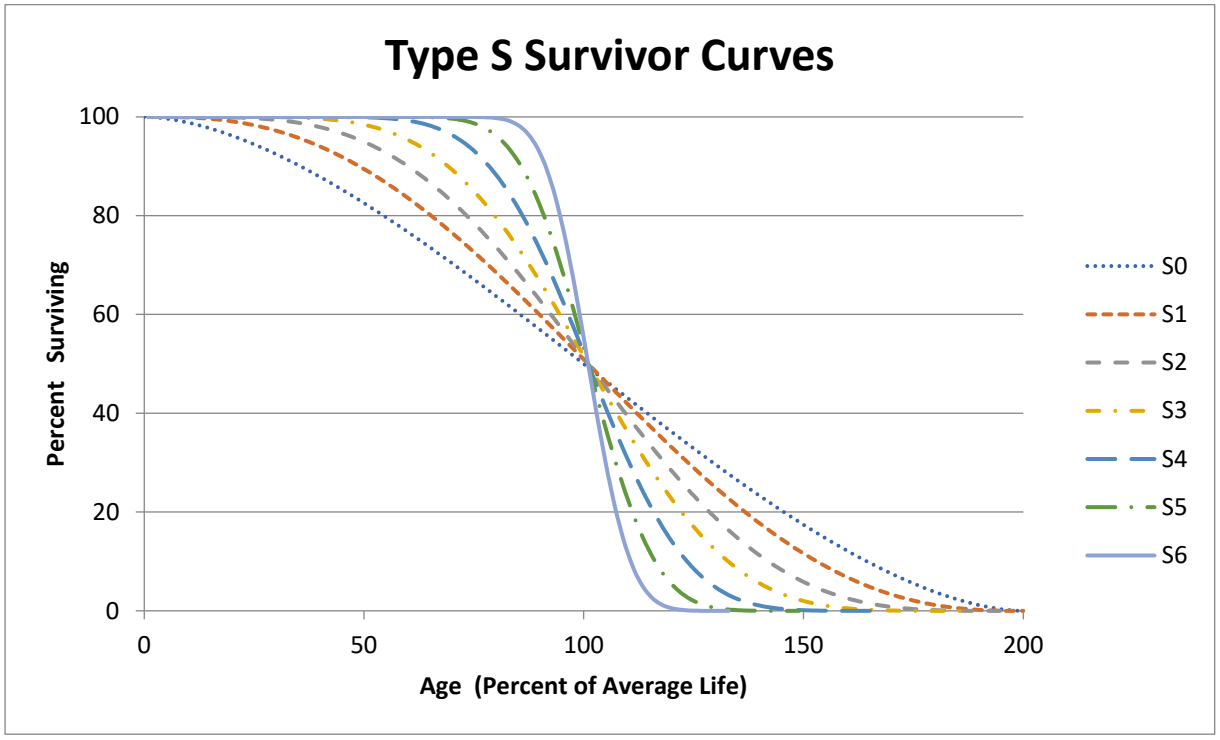


Figure 3:
Type S Survivor and Frequency Curves



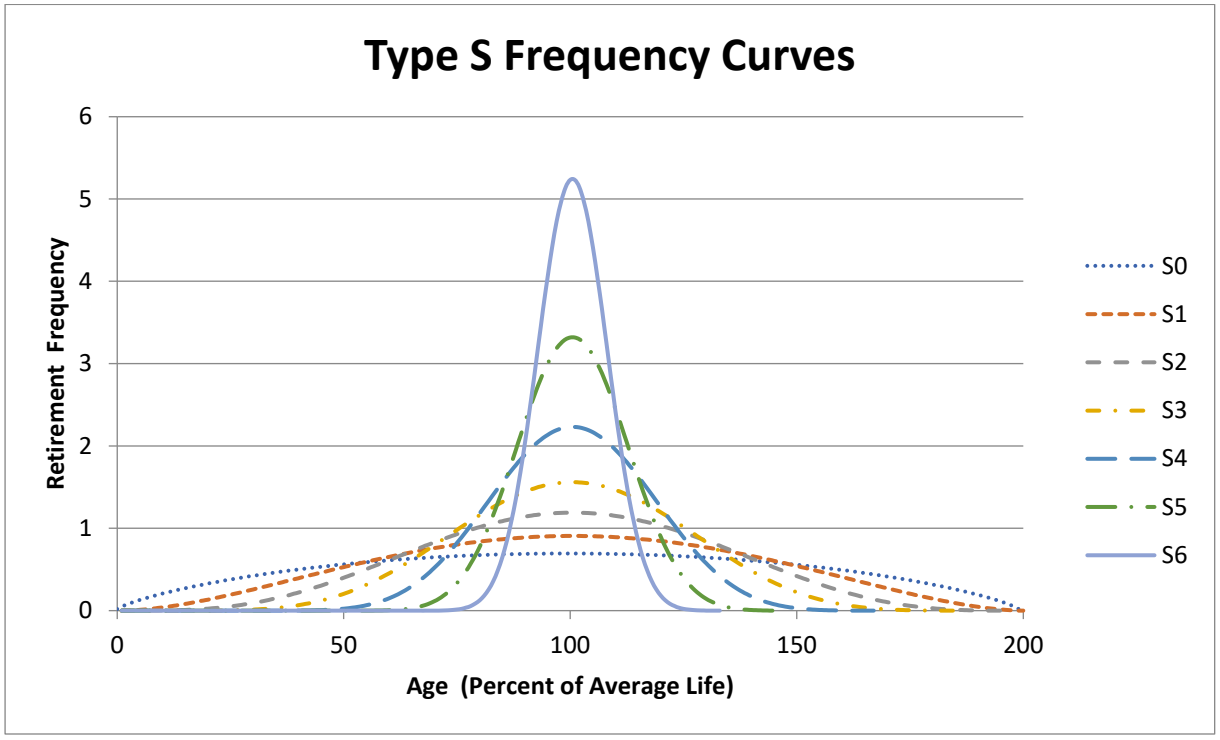
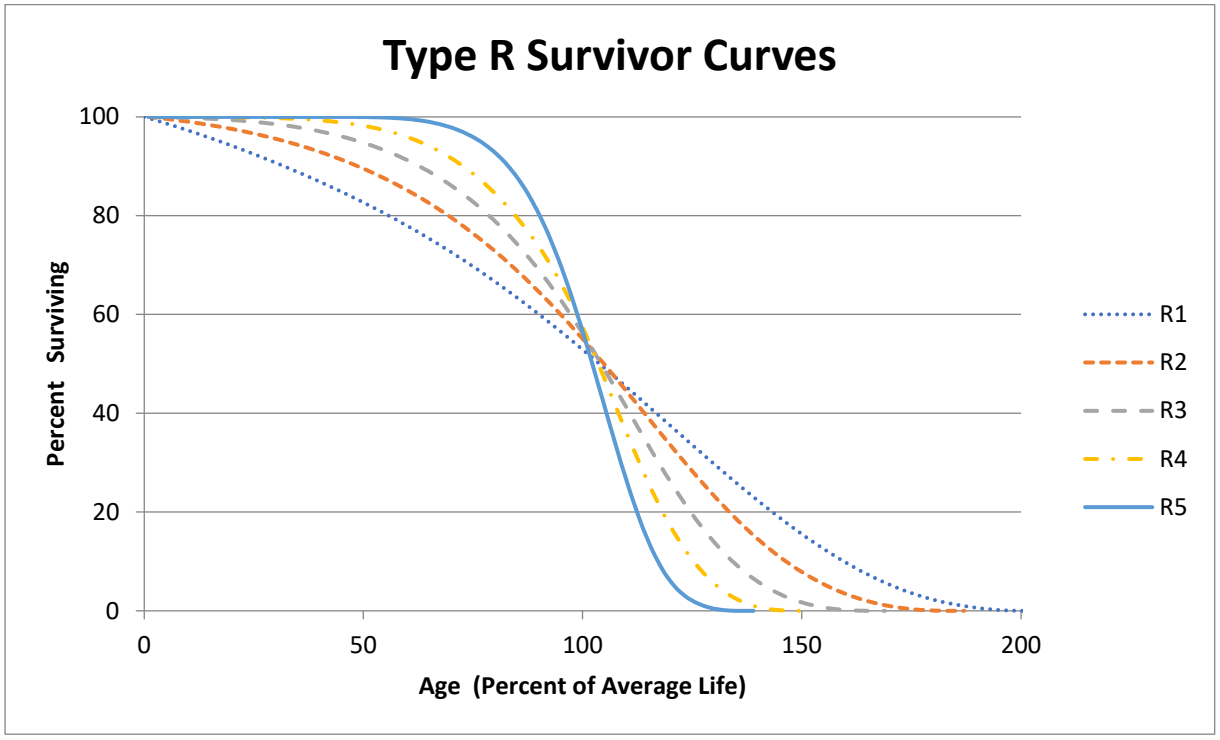
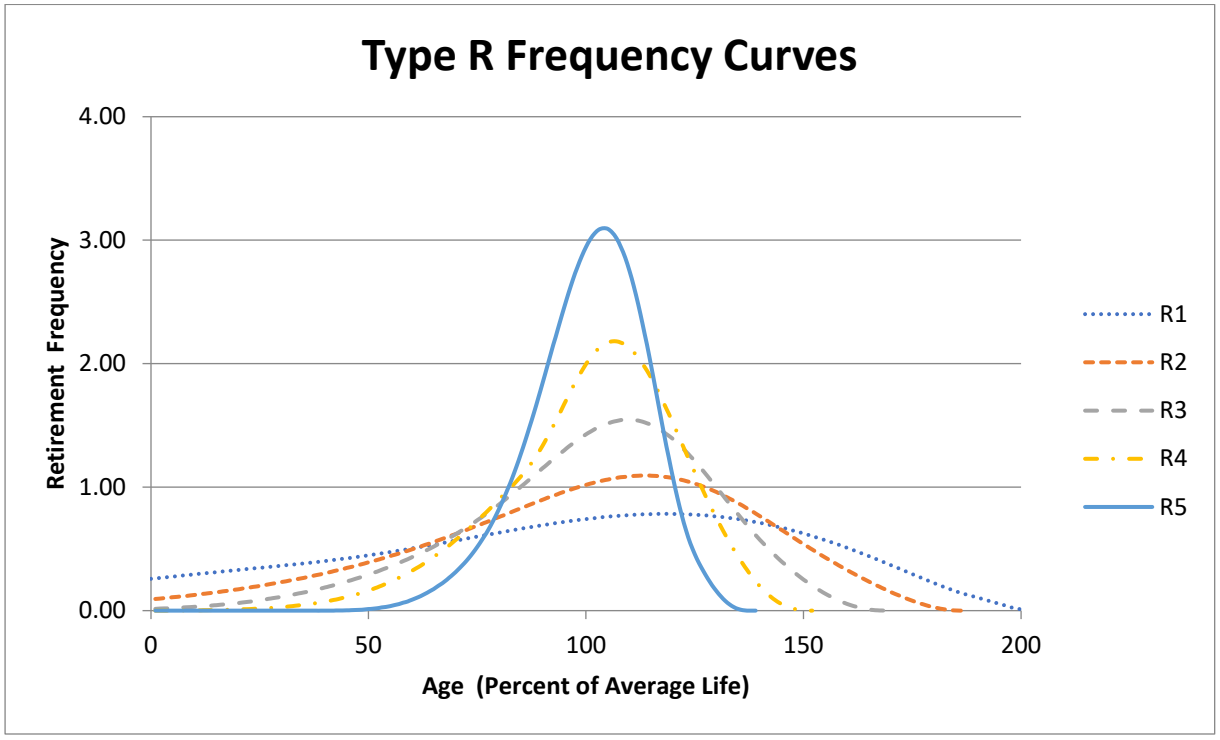


Figure 4:
Type R Survivor and Frequency Curves





As shown in the graphs above, the modes for the L family frequency curves occur to the left of average life (100% on the x-axis), while the S family modes occur at the average, and the R family modes occur after the average.

3. Types of Lives

Several other important statistical analyses and types of lives may be derived from an Iowa curve. These include: 1) average life; 2) realized life; 3) remaining life; and 4) probable life. The figure below illustrates these concepts. It shows the frequency curve, survivor curve, and probable life curve. Age M_x on the x-axis represents the modal age, while age AL_x represents the average age. Thus, this figure illustrates an "L type" Iowa curve since the mode occurs before the average.[11]

First, average life is the area under the survivor curve from age zero to maximum life. Because the survivor curve is measured in percent, the area under the curve must be divided by 100% to convert it from percent-years to years. The formula for average life is as follows:[12]

Equation 1:
Average Life

$$Average\ Life\ = \frac{Area\ Under\ Survivor\ Curve\ from\ Age\ 0\ to\ Max\ Life}{100\%}$$

Thus, average life may not be determined without a complete survivor curve. Many property groups being analyzed will not have experienced full retirement. This dynamic results in a "stub" survivor curve. Iowa curves are used to extend stub curves to maximum life in order to make the average life calculation (see Appendix C).

[11] From age zero to age M_x on the survivor curve, it could be said that the percent surviving from this property group is decreasing at an increasing rate. Conversely, from point M_x to maximum on the survivor curve, the percent surviving is decreasing at a decreasing rate.

[12] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices 71 (NARUC 1996).

Realized life is similar to average life, except that realized life is the average years of service experienced to date from the vintage's original installations.[13] As shown in the figure below, realized life is the area under the survivor curve from zero to age RL_X. Likewise, unrealized life is the area under the survivor curve from age RL_X to maximum life. Thus, it could be said that average life equals realized life plus unrealized life.

Average remaining life represents the future years of service expected from the surviving property.[14] Remaining life is sometimes referred to as "average remaining life" and "life expectancy." To calculate average remaining life at age x, the area under the estimated future portion of the survivor curve is divided by the percent surviving at age x (denoted S_X). Thus, the average remaining life formula is:

Equation 2:
Average Remaining Life

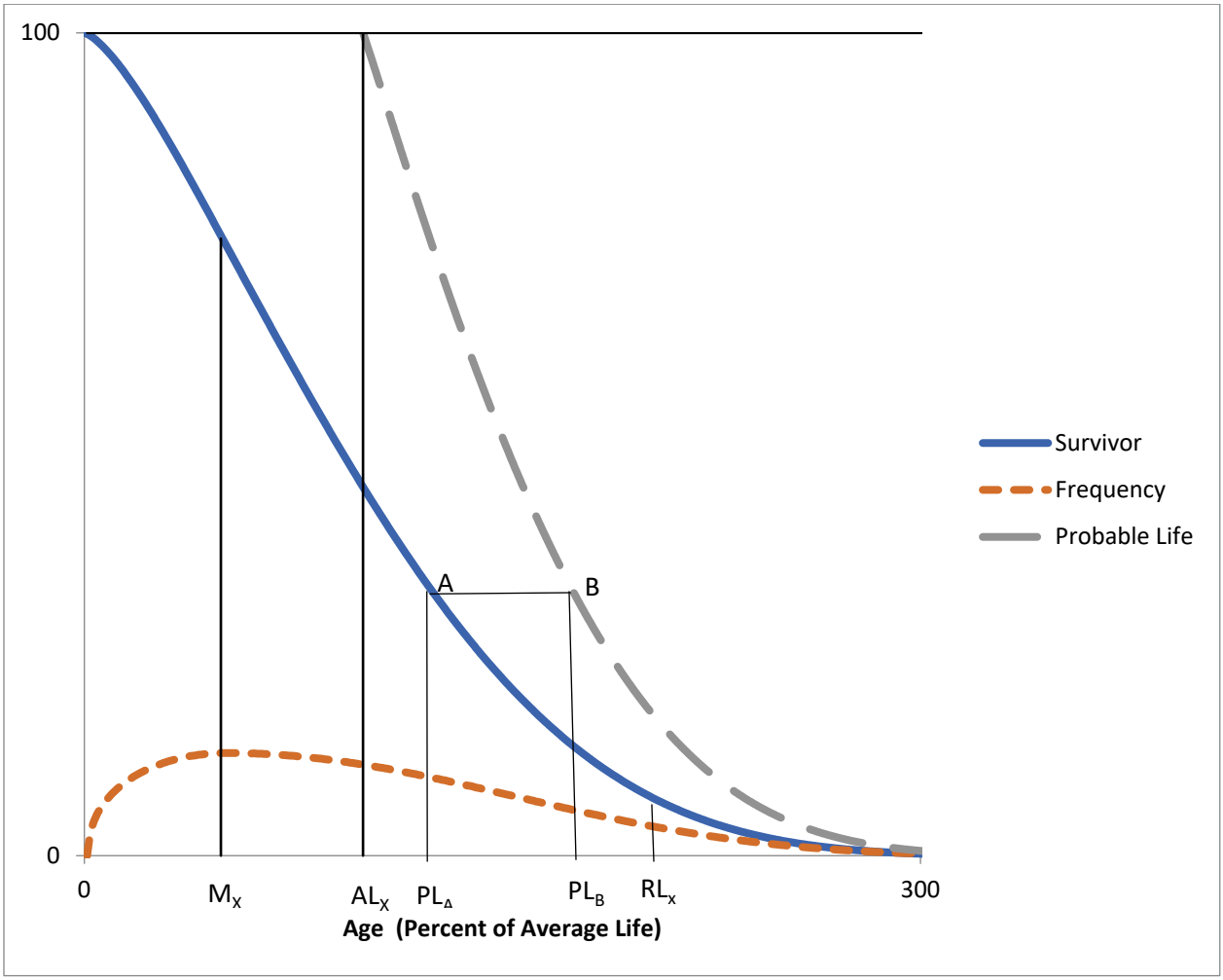
$$Average\ Remaining\ Life\ = \frac{Area\ Under\ Survivor\ Curve\ from\ Age\ x\ to\ Max\ Life}{S_X}$$

It is necessary to determine average remaining life to calculate the annual accrual under the remaining life technique.

[13] *Id*. at 73.

[14] *Id*. at 74.

Figure 5:
Iowa Curve Derivations



Finally, the probable life may also be determined from the Iowa curve. The probable life of a property group is the total life expectancy of the property surviving at any age and is equal to the remaining life plus the current age.[15] The probable life is also illustrated in this figure. The probable life at age PL_A is the age at point PL_B. Thus, to read the probable life at age PL_A, see the corresponding point on the survivor curve above at point "A," then horizontally to point "B" on

[15] Wolf *supra* n. 1, at 28.

the probable life curve, and back down to the age corresponding to point "B." It is no coincidence that the vertical line from AL_X connects at the top of the probable life curve. This connection occurs because at age zero, probable life equals average life.

APPENDIX C:

ACTUARIAL ANALYSIS

Actuarial science is a discipline that applies various statistical methods to assess risk probabilities and other related functions. Actuaries often study human mortality. The results from historical mortality data are used to predict how long similar groups of people who are alive today will live. Insurance companies rely on actuarial analysis in determining premiums for life insurance policies.

The study of human mortality is analogous to estimating service lives of industrial property groups. While some humans die solely from chance, most deaths are related to age; that is, death rates generally increase as age increases. Similarly, physical plant is also subject to forces of retirement. These forces include physical, functional, and contingent factors, as shown in the table below.[1]

Figure 1:
Forces of Retirement

Physical Factors	Functional Factors	Contingent Factors
Wear and tear Decay or deterioration Action of the elements	Inadequacy Obsolescence Changes in technology Regulations Managerial discretion	Casualties or disasters Extraordinary obsolescence

While actuaries study historical mortality data in order to predict how long a group of people will live, depreciation analysts must look at a utility's historical data in order to estimate the average lives of property groups. A utility's historical data is often contained in the Continuing

[1] National Association of Regulatory Utility Commissioners, Public Utility Depreciation Practices 14-15 (NARUC 1996).

Property Records ("CPR"). Generally, a CPR should contain 1) an inventory of property record units; 2) the association of costs with such units; and 3) the dates of installation and removal of plant. Since actuarial analysis includes the examination of historical data to forecast future retirements, the historical data used in the analysis should not contain events that are anomalous or unlikely to recur.[2] Historical data is used in the retirement rate actuarial method, which is discussed further below.

The Retirement Rate Method

There are several systematic actuarial methods that use historical data to calculate observed survivor curves for property groups. Of these methods, the retirement rate method is superior, and is widely employed by depreciation analysts.[3] The retirement rate method is ultimately used to develop an observed survivor curve, which can be fitted with an Iowa curve discussed in Appendix B to forecast average life. The observed survivor curve is calculated by using an observed life table ("OLT"). The figures below illustrate how the OLT is developed. First, historical property data are organized in a matrix format, with placement years on the left forming rows, and experience years on the top forming columns. The placement year (a.k.a. "vintage year" or "installation year") is the year of placement into service of a group of property. The experience year (a.k.a. "activity year") refers to the accounting data for a particular calendar year. The two matrices below use aged data—that is, data for which the dates of placements, retirements, transfers, and other transactions are known. Without aged data, the retirement rate actuarial method may not be employed. The first matrix is the exposure matrix, which shows the exposures

[2] *Id*. at 112–13.

[3] Anson Marston, Robley Winfrey & Jean C. Hempstead, *Engineering Valuation and Depreciation* 154 (2nd ed., McGraw-Hill Book Company, Inc. 1953).

at the beginning of each year.[4] An exposure is simply the depreciable property subject to retirement during a period. The second matrix is the retirement matrix, which shows the annual retirements during each year. Each matrix covers placement years 2003–2015, and experience years 2008–2015. In the exposure matrix, the number in the 2012 experience column and the 2003 placement row is $192,000. This means at the beginning of 2012, there was $192,000 still exposed to retirement from the vintage group placed in 2003. Likewise, in the retirement matrix, $19,000 of the dollars invested in 2003 were retired during 2012.

Figure 2:
Exposure Matrix

	Experience Years									
	Exposures at January 1 of Each Year (Dollars in 000's)									
Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
2003	261	245	228	211	**192**	173	152	131	131	11.5 - 12.5
2004	267	252	236	220	202	**184**	165	145	297	10.5 - 11.5
2005	304	291	277	263	248	232	**216**	198	536	9.5 - 10.5
2006	345	334	322	310	298	284	270	**255**	**847**	8.5 - 9.5
2007	367	357	347	335	324	312	299	286	1,201	7.5 - 8.5
2008	375	366	357	347	336	325	314	302	1,581	6.5 - 7.5
2009		377	366	356	346	336	327	319	1,986	5.5 - 6.5
2010			381	369	358	347	336	327	2,404	4.5 - 5.5
2011				386	372	359	346	334	2,559	3.5 - 4.5
2012					395	380	366	352	2,722	2.5 - 3.5
2013						401	385	370	2,866	1.5 - 2.5
2014							410	393	2,998	0.5 - 1.5
2015								416	3,141	0.0 - 0.5
Total	1919	2222	2514	2796	3070	3333	3586	3827	23,268	

[4] Technically, the last numbers in each column are "gross additions" rather than exposures. Gross additions do not include adjustments and transfers applicable to plant placed in a previous year. Once retirements, adjustments, and transfers are factored in, the balance at the beginning of the next accounting period is called an "exposure" rather than an addition.

Figure 3:
Retirement Matrix

	Experience Years									
	Retirements During the Year (000's)									
Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
2003	16	17	18	19	19	20	21	23	23	11.5 - 12.5
2004	15	16	17	17	18	19	20	21	43	10.5 - 11.5
2005	13	14	14	15	16	17	17	18	59	9.5 - 10.5
2006	11	12	12	13	13	14	15	15	71	8.5 - 9.5
2007	10	11	11	12	12	13	13	14	82	7.5 - 8.5
2008	9	9	10	10	11	11	12	13	91	6.5 - 7.5
2009		11	10	10	9	9	9	8	95	5.5 - 6.5
2010			12	11	11	10	10	9	100	4.5 - 5.5
2011				14	13	13	12	11	93	3.5 - 4.5
2012					15	14	14	13	91	2.5 - 3.5
2013						16	15	14	93	1.5 - 2.5
2014							17	16	100	0.5 - 1.5
2015								18	112	0.0 - 0.5
Total	74	89	104	121	139	157	175	194	1,052	

These matrices help visualize how exposure and retirement data are calculated for each age interval. An age interval is typically one year. A common convention is to assume that any unit installed during the year is installed in the middle of the calendar year (i.e., July 1st). This convention is called the "half-year convention" and effectively assumes that all units are installed uniformly during the year.[5] Adoption of the half-year convention leads to age intervals of 0–0.5 years, 0.5–1.5 years, etc., as shown in the matrices.

The purpose of the matrices is to calculate the totals for each age interval, which are shown in the second column from the right in each matrix. This column is calculated by adding each number from the corresponding age interval in the matrix. For example, in the exposure matrix, the total amount of exposures at the beginning of the 8.5–9.5 age interval is $847,000. This number was calculated by adding the numbers shown on the "stairs" to the left (192+184+216+255=847).

[5] Frank K. Wolf & W. Chester Fitch, Depreciation Systems 22 (Iowa State University Press 1994).

The same calculation is applied to each number in the column. The amounts retired during the year in the retirements matrix affect the exposures at the beginning of each year in the exposures matrix. For example, the amount exposed to retirement in 2008 from the 2003 vintage is $261,000. The amount retired during 2008 from the 2003 vintage is $16,000. Thus, the amount exposed to retirement at the beginning of 2009 from the 2003 vintage is $245,000 ($261,000 - $16,000). The company's property records may contain other transactions which affect the property, including sales, transfers, and adjusting entries. Although these transactions are not shown in the matrices above, they would nonetheless affect the amount exposed to retirement at the beginning of each year.

The totaled amounts for each age interval in both matrices are used to form the exposure and retirement columns in the OLT, as shown in the chart below. This chart also shows the retirement ratio and the survivor ratio for each age interval. The retirement ratio for an age interval is the ratio of retirements during the interval to the property exposed to retirement at the beginning of the interval. The retirement ratio represents the probability that the property surviving at the beginning of an age interval will be retired during the interval. The survivor ratio is simply the complement to the retirement ratio (1 – retirement ratio). The survivor ratio represents the probability that the property surviving at the beginning of an age interval will survive to the next age interval.

Figure 4:
Observed Life Table

Age at Start of Interval	Exposures at Start of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	Percent Surviving at Start of Age Interval
A	B	C	D = C / B	E = 1 - D	F
0.0	3,141	112	0.036	0.964	**100.00**
0.5	2,998	100	0.033	0.967	**96.43**
1.5	2,866	93	0.032	0.968	**93.21**
2.5	2,722	91	0.033	0.967	**90.19**
3.5	2,559	93	0.037	0.963	**87.19**
4.5	2,404	100	0.042	0.958	**84.01**
5.5	1,986	95	0.048	0.952	**80.50**
6.5	1,581	91	0.058	0.942	**76.67**
7.5	1,201	82	0.068	0.932	**72.26**
8.5	847	71	0.084	0.916	**67.31**
9.5	536	59	0.110	0.890	**61.63**
10.5	297	43	0.143	0.857	**54.87**
11.5	131	23	0.172	0.828	**47.01**
					38.91
Total	23,268	1,052			

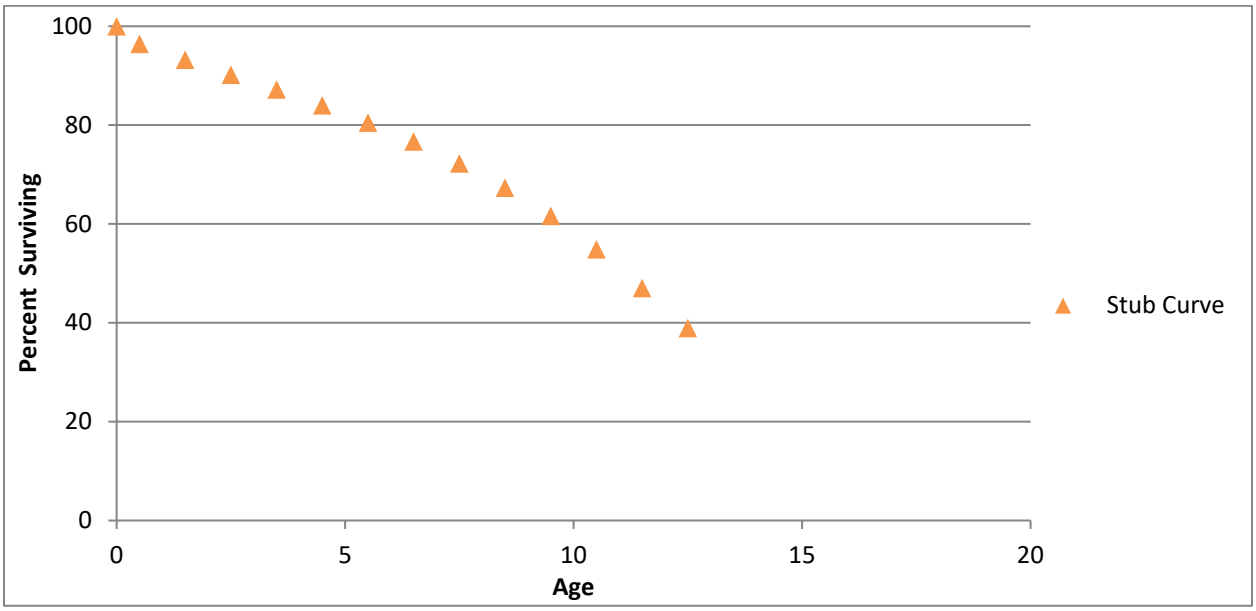
Column F on the right shows the percentages surviving at the beginning of each age interval. This column starts at 100 percent surviving. Each consecutive number below is calculated by multiplying the percent surviving from the previous age interval by the corresponding survivor ratio for that age interval. For example, the percent surviving at the start of age interval 1.5 is 93.21 percent, which was calculated by multiplying the percent surviving for age interval 0.5 (96.43 percent) by the survivor ratio for age interval 0.5 (0.967).[6]

The percentages surviving in Column F are the numbers that are used to form the original survivor curve. This particular curve starts at 100 percent surviving and ends at 38.91 percent surviving. An observed survivor curve such as this that does not reach zero percent surviving is

[6] Multiplying 96.43 by 0.967 does not equal 93.21 exactly due to rounding.

called a "stub" curve. The figure below illustrates the stub survivor curve derived from the OLT above.

Figure 5:
Original "Stub" Survivor Curve



The matrices used to develop the basic OLT and stub survivor curve provide a basic illustration of the retirement rate method in that only a few placement and experience years were used. In reality, analysts may have several decades of aged property data to analyze. In that case, it may be useful to use a technique called "banding" in order to identify trends in the data.

Banding

The forces of retirement and characteristics of industrial property are constantly changing. A depreciation analyst may examine the magnitude of these changes. Analysts often use a technique called "banding" to assist with this process. Banding refers to the merging of several years of data into a single data set for further analysis, and it is a common technique associated

with the retirement rate method.[7] There are three primary benefits of using bands in depreciation analysis:

1. Increasing the sample size. In statistical analyses, the larger the sample size in relation to the body of total data, the greater the reliability of the result;

2. Smooth the observed data. Generally, the data obtained from a single activity or vintage year will not produce an observed life table that can be easily fit; and

3. Identify trends. By looking at successive bands, the analyst may identify broad trends in the data that may be useful in projecting the future life characteristics of the property.[8]

Two common types of banding methods are the "placement band" method and the "experience band" method." A placement band, as the name implies, isolates selected placement years for analysis. The figure below illustrates the same exposure matrix shown above, except that only the placement years 2005–2008 are considered in calculating the total exposures at the beginning of each age interval.

[7] NARUC *supra* n. 1, at 113.

[8] *Id*.

Figure 6:
Placement Bands

Placement Years	Experience Years: Exposures at January 1 of Each Year (Dollars in 000's) 2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
2003	261	245	228	211	192	173	152	131		11.5 - 12.5
2004	267	252	236	220	202	184	165	145		10.5 - 11.5
2005	304	291	277	263	248	232	216	198	198	9.5 - 10.5
2006	345	334	322	310	298	284	270	255	471	8.5 - 9.5
2007	367	357	347	335	324	312	299	286	788	7.5 - 8.5
2008	375	366	357	347	336	325	314	302	1,133	6.5 - 7.5
2009		377	366	356	346	336	327	319	1,186	5.5 - 6.5
2010			381	369	358	347	336	327	1,237	4.5 - 5.5
2011				386	372	359	346	334	1,285	3.5 - 4.5
2012					395	380	366	352	1,331	2.5 - 3.5
2013						401	385	370	1,059	1.5 - 2.5
2014							410	393	733	0.5 - 1.5
2015								416	375	0.0 - 0.5
Total	1919	2222	2514	2796	3070	3333	3586	3827	9,796	

The shaded cells within the placement band equal the total exposures at the beginning of age interval 4.5–5.5 ($1,237). The same placement band would be used for the retirement matrix covering the same placement years of 2005–2008. This use of course would result in a different OLT and original stub survivor curve than those that were calculated above without the restriction of a placement band.

Analysts often use placement bands for comparing the survivor characteristics of properties with different physical characteristics.[9] Placement bands allow analysts to isolate the effects of changes in technology and materials that occur in successive generations of plant. For example, if in 2005 an electric utility began placing transmission poles into service with a special chemical treatment that extended the service lives of those poles, an analyst could use placement bands to isolate and analyze the effect of that change in the property group's physical characteristics. While placement bands are very useful in depreciation analysis, they also possess an intrinsic dilemma.

[9] Wolf *supra* n. 5, at 182.

A fundamental characteristic of placement bands is that they yield fairly complete survivor curves for older vintages. However, with newer vintages, which are arguably more valuable for forecasting, placement bands yield shorter survivor curves. Longer "stub" curves are considered more valuable for forecasting average life. Thus, an analyst must select a band width broad enough to provide confidence in the reliability of the resulting curve fit yet narrow enough so that an emerging trend may be observed.[10]

Analysts also use "experience bands." Experience bands show the composite retirement history for all vintages during a select set of activity years. The figure below shows the same data presented in the previous exposure matrices, except that the experience band from 2011–2013 is isolated, resulting in different interval totals.

Figure 7:
Experience Bands

	Experience Years									
	Exposures at January 1 of Each Year (Dollars in 000's)									
Placement Years	2008	2009	2010	2011	2012	2013	2014	2015	Total at Start of Age Interval	Age Interval
2003	261	245	228	211	192	173	152	131		11.5 - 12.5
2004	267	252	236	220	202	184	165	145		10.5 - 11.5
2005	304	291	277	263	248	232	216	198	173	9.5 - 10.5
2006	345	334	322	310	298	284	270	255	376	8.5 - 9.5
2007	367	357	347	335	324	312	299	286	645	7.5 - 8.5
2008	375	366	357	347	336	325	314	302	752	6.5 - 7.5
2009		377	366	356	346	336	327	319	872	5.5 - 6.5
2010			381	369	358	347	336	327	959	4.5 - 5.5
2011				386	372	359	346	334	1,008	3.5 - 4.5
2012					395	380	366	352	1,039	2.5 - 3.5
2013						401	385	370	1,072	1.5 - 2.5
2014							410	393	1,121	0.5 - 1.5
2015								416	1,182	0.0 - 0.5
Total	1919	2222	2514	2796	3070	3333	3586	3827	9,199	

The shaded cells within the experience band equal the total exposures at the beginning of age interval 4.5–5.5 ($1,237). The same experience band would be used for the retirement matrix

[10] NARUC *supra* n. 1, at 114.

covering the same experience years of 2011–2013. This use of course would result in a different OLT and original stub survivor than if the band had not been used. Analysts often use experience bands to isolate and analyze the effects of an operating environment over time.[11] Likewise, the use of experience bands allows analysis of the effects of an unusual environmental event. For example, if an unusually severe ice storm occurred in 2013, destruction from that storm would affect an electric utility's line transformers of all ages. That is, each of the line transformers from each placement year would be affected, including those recently installed in 2012, as well as those installed in 2003. Using experience bands, an analyst could isolate or even eliminate the 2013 experience year from the analysis. In contrast, a placement band would not effectively isolate the ice storm's effect on life characteristics. Rather, the placement band would show an unusually large rate of retirement during 2013, making it more difficult to accurately fit the data with a smooth Iowa curve. Experience bands tend to yield the most complete stub curves for recent bands because they have the greatest number of vintages included. Longer stub curves are better for forecasting. The experience bands, however, may also result in more erratic retirement dispersion making the curve-fitting process more difficult.

Depreciation analysts must use professional judgment in determining the types of bands to use and the band widths. In practice, analysts may use various combinations of placement and experience bands in order to increase the data sample size, identify trends and changes in life characteristics, and isolate unusual events. Regardless of which bands are used, observed survivor curves in depreciation analysis rarely reach zero percent. They rarely reach zero percent because, as seen in the OLT above, relatively newer vintage groups have not yet been fully retired at the

[11] *Id*.

time the property is studied. An analyst could confine the analysis to older, fully retired vintage groups to get complete survivor curves, but such analysis would ignore some of the property currently in service and would arguably not provide an accurate description of life characteristics for current plant in service. Because a complete curve is necessary to calculate the average life of the property group, however, curve-fitting techniques using Iowa curves or other standardized curves may be employed in order to complete the stub curve.

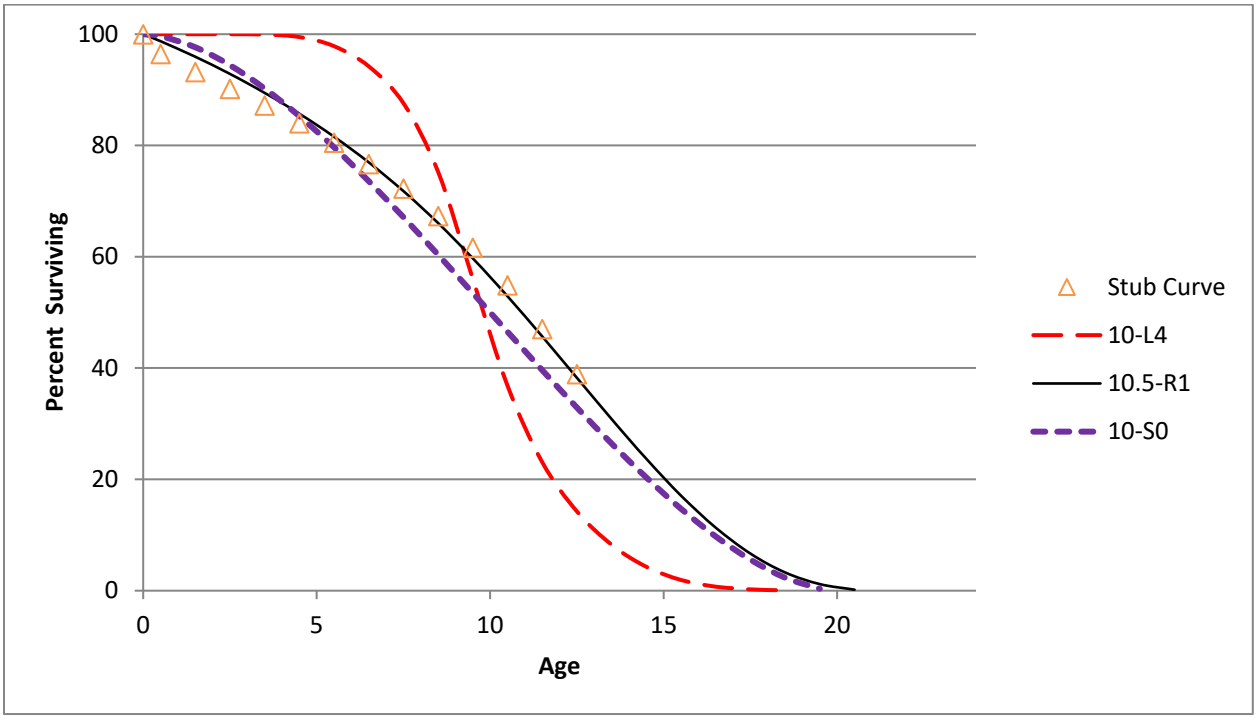
Curve Fitting

Depreciation analysts typically use the survivor curve rather than the frequency curve to fit the observed stub curves. The most commonly used generalized survivor curves in the curve-fitting process are the Iowa curves discussed above. As Wolf notes, if "the Iowa curves are adopted as a model, an underlying assumption is that the process describing the retirement pattern is one of the 22 [or more] processes described by the Iowa curves."[12]

Curve fitting may be done through visual matching or mathematical matching. In visual curve fitting, the analyst visually examines the plotted data to make an initial judgment about the Iowa curves that may be a good fit. The figure below illustrates the stub survivor curve shown above. It also shows three different Iowa curves: the 10-L4, the 10.5-R1, and the 10-S0. Visually, the 10.5-R1 curve is clearly a better fit than the other two curves.

[12] Wolf *supra* n. 5, at 46 (22 curves includes Winfrey's 18 original curves plus Cowles's four "O" type curves).

Figure 8:
Visual Curve Fitting



In mathematical fitting, the least squares method is used to calculate the best fit. This mathematical method would be excessively time consuming if done by hand. With the use of modern computer software however, mathematical fitting is an efficient and useful process. The typical logic for a computer program, as well as the software employed for the analysis in this testimony is as follows:

> First (an Iowa curve) curve is arbitrarily selected. . . . If the observed curve is a stub curve, . . . calculate the area under the curve and up to the age at final data point. Call this area the realized life. Then systematically vary the average life of the theoretical survivor curve and calculate its realized life at the age corresponding to the study date. This trial and error procedure ends when you find an average life such that the realized life of the theoretical curve equals the realized life of the observed curve. Call this the average life.
>
> Once the average life is found, calculate the difference between each percent surviving point on the observed survivor curve and the corresponding point on the Iowa curve. Square each difference and sum them. The sum of squares is used as a measure of goodness of fit for that particular Iowa type curve. This procedure is

> repeated for the remaining 21 Iowa type curves. The "best fit" is declared to be the type of curve that minimizes the sum of differences squared.[13]

Mathematical fitting requires less judgment from the analyst and is thus less subjective. Blind reliance on mathematical fitting, however, may lead to poor estimates. Thus, analysts should employ both mathematical and visual curve fitting in reaching their final estimates. This way, analysts may utilize the objective nature of mathematical fitting while still employing professional judgment. As Wolf notes: "The results of mathematical curve fitting serve as a guide for the analyst and speed the visual fitting process. But the results of the mathematical fitting should be checked visually, and the final determination of the best fit be made by the analyst."[14]

In the graph above, visual fitting was sufficient to determine that the 10.5-R1 Iowa curve was a better fit than the 10-L4 and the 10-S0 curves. Using the sum of least squares method, mathematical fitting confirms the same result. In the chart below, the percentages surviving from the OLT that formed the original stub curve are shown in the left column, while the corresponding percentages surviving for each age interval are shown for the three Iowa curves. The right portion of the chart shows the differences between the points on each Iowa curve and the stub curve. These differences are summed at the bottom. Curve 10.5-R1 is the best fit because the sum of the squared differences for this curve is less than the same sum for the other two curves. Curve 10-L4 is the worst fit, which was also confirmed visually.

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[13] Wolf *supra* n. 5, at 47.

[14] *Id*. at 48.

Figure 9:
Mathematical Fitting

Age Interval	Stub Curve	Iowa Curves			Squared Differences		
		10-L4	10-S0	10.5-R1	10-L4	10-S0	10.5-R1
0.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0
0.5	96.4	100.0	99.7	98.7	12.7	10.3	5.3
1.5	93.2	100.0	97.7	96.0	46.1	19.8	7.6
2.5	90.2	100.0	94.4	92.9	96.2	18.0	7.2
3.5	87.2	100.0	90.2	89.5	162.9	9.3	5.2
4.5	84.0	99.5	85.3	85.7	239.9	1.6	2.9
5.5	80.5	97.9	79.7	81.6	301.1	0.7	1.2
6.5	76.7	94.2	73.6	77.0	308.5	9.5	0.1
7.5	72.3	87.6	67.1	71.8	235.2	26.5	0.2
8.5	67.3	75.2	60.4	66.1	62.7	48.2	1.6
9.5	61.6	56.0	53.5	59.7	31.4	66.6	3.6
10.5	54.9	36.8	46.5	52.9	325.4	69.6	3.9
11.5	47.0	23.1	39.6	45.7	572.6	54.4	1.8
12.5	38.9	14.2	32.9	38.2	609.6	36.2	0.4
SUM					**3004.2**	**371.0**	**41.0**

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EDUCATION

University of Oklahoma — Norman, OK
Master of Business Administration — 2014
Areas of Concentration: Finance, Energy

University of Oklahoma College of Law — Norman, OK
Juris Doctor — 2007
Member, American Indian Law Review

University of Oklahoma — Norman, OK
Bachelor of Business Administration — 2003
Major: Finance

PROFESSIONAL DESIGNATIONS

Society of Depreciation Professionals
Certified Depreciation Professional (CDP)

Society of Utility and Regulatory Financial Analysts
Certified Rate of Return Analyst (CRRA)

WORK EXPERIENCE

Resolve Utility Consulting PLLC — Oklahoma City, OK
Managing Member — 2016 – Present
Provide expert analysis and testimony specializing in depreciation and cost of capital issues for clients in utility regulatory proceedings.

Oklahoma Corporation Commission — Oklahoma City, OK
Public Utility Regulatory Analyst — 2012 – 2016
Assistant General Counsel — 2011 – 2012
Represented commission staff in utility regulatory proceedings and provided legal opinions to commissioners. Provided expert analysis and testimony in depreciation, cost of capital, incentive compensation, payroll and other issues.

Perebus Counsel, PLLC — Oklahoma City, OK
Managing Member — 2009 – 2011
Represented clients in the areas of family law, estate planning, debt negotiations, business organization, and utility regulation.

Moricoli & Schovanec, P.C. — Oklahoma City, OK
Associate Attorney — 2007 – 2009
Represented clients in the areas of contracts, oil and gas, business structures and estate administration.

TEACHING EXPERIENCE

University of Oklahoma — Norman, OK
Adjunct Instructor – "Conflict Resolution" — 2014 – 2021
Adjunct Instructor – "Ethics in Leadership"

Rose State College — Midwest City, OK
Adjunct Instructor – "Legal Research" — 2013 – 2015
Adjunct Instructor – "Oil & Gas Law"

PROFESSIONAL ASSOCIATIONS

Oklahoma Bar Association — 2007 – Present

Society of Depreciation Professionals — 2014 – Present
Board Member – President — 2017
Participate in management of operations, attend meetings, review performance, organize presentation agenda.

Society of Utility Regulatory Financial Analysts — 2014 – Present

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utilities Commission of Nevada	Southwest Gas Corporation	23-09012	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Public Utilities Commission of the State of California	Southern California Edison	A.23-05-010	Depreciation rates, service lives, net salvage	The Utility Reform Network
Pennsylvania Public Utility Commission	Pennsylvania-American Water Company	R-2023-3043189 R-2023-3043190	Cost of capital, depreciation rates, net salvage	Pennsylvania Office of Consumer Advocate
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45967	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Massachusetts Department of Public Utilities	Massachusetts Electric Company and Nantucket Electric Company D/B/A National Grid	D.P.U. 23-150	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Iowa Utilities Board	Interstate Power and Light Company	RPU-2023-0002	Depreciation rates, service lives, net salvage	Office of Consumer Advocate
Public Service Commission of South Carolina	Duke Energy Carolinas	2023-388-E 2023-403-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Indiana Utility Regulatory Commission	Citizens Energy Group	45988	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Railroad Commission of Texas	CenterPoint Energy Resources Corp.	OS-23-00015513	Depreciation rates, service lives, net salvage	Alliance of CenterPoint Municipalities
Indiana Utility Regulatory Commission	CenterPoint Energy Indiana South	45990	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Delaware Public Service Commission	Artesian Water Company, Inc.	23-0601	Cost of capital, depreciation rates, net salvage	Division of the Public Advocate
Maryland Public Service Commission	Washington Gas Light Company	9704	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel
Delaware Public Service Commission	Veolia Water Delaware Inc.	23-0598	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	United Illuminating Company	22-08-08	Depreciation rates, service lives, net salvage	PURA Staff

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 54634	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Railroad Commission of Texas	SiEnergy, LP	OS-23-00013504	Depreciation rates, service lives, net salvage	Texas municipal intervenor group
Pennsylvania Public Utility Commission	Aqua Pennsylvania, Inc.	A-2022-3034143	Fair market value review	Pennsylvania Office of Consumer Advocate
Wyoming Public Service Commission	Rocky Mountain Power	20000-633-ER-23	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Maryland Public Service Commission	Potomac Electric Power Company	9702	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Public Utilities Commission of Nevada	Nevada Power Company d/b/a NV Energy	23-06007 23-06008	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Public Utilities Commission of Ohio	Northeast Ohio Natural Gas Corp.	23-0154-GA-AIR	Cost of capital, awarded rate of return, capital structure	Office of the Ohio Consumers' Counsel
New York State Public Service Commission	The Brooklyn Untion Gas Company and Keyspan Gas East Corporation d/b/a Nation Grid	23-G-0225 23-G-0226	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-23-11	Cost of capital, awarded rate of return, capital structure	Micron Technology, Inc.
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45933	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Massachusetts Department of Public Utilities	Fitchburg Gas and Electric Company d/b/a Unitil	D.P.U. 23-80; D.P.U. 23-81	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Kansas Corporation Commission	Evergy Kansas Central, Evergy Kansas South, and Evergy Metro	23-EKCE-775-RTS	Depreciation rates, service lives, net salvage	The Citizens' Utility Ratepayer Board
Delaware Public Service Commission	Delmarva Power & Light Company	22-0897	Cost of capital, awarded rate of return, capital structure	Division of the Public Advocate
Connecticut Public Utilities Regulatory Authority	Connecticut Water Company	23-08-32	Depreciation rates, service lives, net salvage	PURA Staff

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Connecticut Public Utilities Regulatory Authority	Connecticut Natural Gas Corporation and The Southern Connecticut Gas Company	23-11-02	Depreciation rates, service lives, net salvage	PURA Staff
Railroad Commission of Texas	Atmos Pipeline – Texas	OS-23-00013758	Depreciation rates, service lives, net salvage	Atmos Texas Municipalities
Wyoming Public Service Commission	Black Hills Wyoming Gas	30026-78-GR-23	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Indiana Utility Regulatory Commission	Indianapolis Power & Light Company d/b/a AES Indiana	45911	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
New Mexico Public Regulation Commission	Southwestern Public Service Company	22-00286-UT	Cost of capital, depreciation rates, net salvage	The New Mexico Large Customer Group; Occidental Permian
Public Utilities Commission of the State of California	Southern California Gas Company San Diego Gas & Electric Company	A.22-05-015 A.22-05-016	Depreciation rates, service lives, net salvage	The Utility Reform Network
Public Utilties Commission of the State of Colorado	Public Service Company of Colorado	22AL-0530E 22AL-0478E	Cost of capital, awarded rate of return, capital structure	Colorado Energy Consumers
New Mexico Public Regulatory Commission	Public Service Company of New Mexico	22-00270-UT	Cost of capital, depreciation rates, net salvage	The Albuquerque Bernalillo County Water Utility Authority
Florida Public Service Commission	Peoples Gas System	20230023-GU 20220219-GU 20220212-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Maryland Public Service Commission	Potomac Edison Company	9695	Cost of capital, depreciation rates, net salvage	Maryland Office of People's Counsel
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	2022.11.099	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Indiana-American Water Company	45870	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Dominion Energy South Carolina	2023-70-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Maryland Public Service Commission	Columbia Gas of Maryland	9701	Cost of capital, awarded rate of return, capital structure	Maryland Office of People's Counsel

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Pennsylvania Public Utility Commission	Columbia Water Company	R-2023-3040258	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Baltimore Gas and Electric Company	9692	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-22-0144	Cost of capital, awarded rate of return, capital structure	Residential Utility Consumer Office
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 2022-000093	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Public Service Commission of the State of Montana	NorthWestern Energy	2022.07.078	Cost of capital, depreciation rates, net salvage	Montana Consumer Counsel and Montana Large Customer Group
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45772	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Service Commission of South Carolina	Duke Energy Progress	2022-254-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Wyoming Public Service Commission	Cheyenne Light, Fuel and Power Company D/B/A Black Hills Energy	20003-214-ER-22	Depreciation rates, service lives, net salvage	Wyoming Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	OS-22-00009896	Depreciation rates, service lives, net salvage	The City of El Paso
Public Utilities Commission of Nevada	Sierra Pacific Power Company	22-06014	Depreciation rates, service lives, net salvage	Bureau of Consumer Protection
Washington Utilities & Transportation Commission	Puget Sound Energy	UE-220066 UG-220067 UG-210918	Depreciation rates, service lives, net salvage	Washington Office of Attorney General
Public Utility Commission of Texas	Oncor Electric Delivery Company LLC	PUC 53601	Depreciation rates, service lives, net salvage	Alliance of Oncor Cities
Florida Public Service Commission	Florida Public Utilities Company	20220067-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 53719	Depreciation rates, decommissioning costs	Texas Municipal Group

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Florida Public Service Commission	Florida City Gas	2020069-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Connecticut Public Utilities Regulatory Authority	Aquarion Water Company of Connecticut	22-07-01	Depreciation rates, service lives, net salvage	PURA Staff
Washington Utilities & Transportation Commission	Avista Corporation	UE-220053 UG-220054 UE-210854	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Federal Energy Regulatory Commission	ANR Pipeline Company	RP22-501-000	Depreciation rates, service lives, net salvage	Ascent Resources - Utica, LLC
Pennsylvania Public Utility Commission	Columbia Gas of Pennsylvania, Inc.	R-2022-3031211	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Service Commission of South Carolina	Piedmont Natural Gas Company	2022-89-G	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	UGI Utilities, Inc. - Gas Division	R-2021-3030218	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	A.21-06-021	Depreciation rates, service lives, net salvage	The Utility Reform Network
Pennsylvania Public Utility Commission	PECO Energy Company - Gas Division	R-2022-3031113	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 202100164	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Massachusetts Department of Public Utilities	NSTAR Electric Company D/B/A Eversource Energy	D.P.U. 22-22	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Michigan Public Service Company	DTE Electric Company	U-20836	Cost of capital, awarded rate of return, capital structure	Michigan Environmental Council and Citizens Utility Board of Michigan
New York State Public Service Commission	Consolidated Edison Company of New York, Inc.	22-E-0064 22-G-0065	Depreciation rates, service lives, net salvage, depreciation reserve	The City of New York
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Whiteland Township	A-2021-3026132	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Service Commission of South Carolina	Kiawah Island Utility, Inc.	2021-324-WS	Cost of capital, awarded rate of return, capital structure	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / Willistown Township	A-2021-3027268	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45621	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Arkansas Public Service Commission	Southwestern Electric Power Company	21-070-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers
Federal Energy Regulatory Commission	Southern Star Central Gas Pipeline	RP21-778-002	Depreciation rates, service lives, net salvage	Consumer-Owned Shippers
Railroad Commission of Texas	Participating Texas gas utilities in consolidated proceeding	OS-21-00007061	Securitization of extraordinary gas costs arising from winter storms	The City of El Paso
Public Service Commission of South Carolina	Palmetto Wastewater Reclamation, Inc.	2021-153-S	Cost of capital, awarded rate of return, capital structure, ring-fencing	South Carolina Office of Regulatory Staff
Public Utilties Commission of the State of Colorado	Public Service Company of Colorado	21AL-0317E	Cost of capital, depreciation rates, net salvage	Colorado Energy Consumers
Pennsylvania Public Utility Commission	City of Lancaster - Water Department	R-2021-3026682	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 51802	Depreciation rates, service lives, net salvage	The Alliance of Xcel Municipalities
Pennsylvania Public Utility Commission	The Borough of Hanover - Hanover Municipal Waterworks	R-2021-3026116	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Delmarva Power & Light Company	9670	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 202100063	Cost of capital, awarded rate of return, capital structure	Oklahoma Industrial Energy Consumers
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45576	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utility Commission of Texas	El Paso Electric Company	PUC 52195	Depreciation rates, service lives, net salvage	The City of El Paso
Pennsylvania Public Utility Commission	Aqua Pennsylvania	R-2021-3027385	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Public Service Commission of the State of Montana	NorthWestern Energy	D2021.02.022	Cost of capital, awarded rate of return, capital structure	Montana Consumer Counsel
Pennsylvania Public Utility Commission	PECO Energy Company	R-2021-3024601	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	20-00238-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 202100055	Cost of capital, depreciation rates, net salvage	Oklahoma Industrial Energy Consumers
Pennsylvania Public Utility Commission	Duquesne Light Company	R-2021-3024750	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Maryland Public Service Commission	Columbia Gas of Maryland	9664	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Southern Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45447	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 51415	Depreciation rates, service lives, net salvage	Cities Advocating Reasonable Deregulation
New Mexico Public Regulatory Commission	Avangrid, Inc., Avangrid Networks, Inc., NM Green Holdings, Inc., PNM, and PNM Resources	20-00222-UT	Ring fencing and capital structure	The Albuquerque Bernalillo County Water Utility Authority
Indiana Utility Regulatory Commission	Indiana Gas Company, d/b/a Vectren Energy Delivery of Indiana, Inc.	45468	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of Nevada	Nevada Power Company and Sierra Pacific Power Company, d/b/a NV Energy	20-07023	Construction work in progress	MGM Resorts International, Caesars Enterprise Services, LLC, and the Southern Nevada Water Authority
Massachusetts Department of Public Utilities	Boston Gas Company, d/b/a National Grid	D.P.U. 20-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Service Commission of the State of Montana	ABACO Energy Services, LLC	D2020.07.082	Cost of capital and authorized rate of return	Montana Consumer Counsel
Maryland Public Service Commission	Washington Gas Light Company	9651	Cost of capital and authorized rate of return	Maryland Office of People's Counsel
Florida Public Service Commission	Utilities, Inc. of Florida	20200139-WS	Cost of capital and authorized rate of return	Florida Office of Public Counsel
New Mexico Public Regulatory Commission	El Paso Electric Company	20-00104-UT	Cost of capital, depreciation rates, net salvage	City of Las Cruces and Doña Ana County
Public Utilities Commission of Nevada	Nevada Power Company	20-06003	Cost of capital, awarded rate of return, capital structure, earnings sharing	MGM Resorts International, Caesars Enterprise Services, LLC, Wynn Las Vegas, LLC, Smart Energy Alliance, and Circus Circus Las Vegas, LLC
Wyoming Public Service Commission	Rocky Mountain Power	20000-578-ER-20	Cost of capital and authorized rate of return	Wyoming Industrial Energy Consumers
Florida Public Service Commission	Peoples Gas System	20200051-GU 20200166-GU	Cost of capital, depreciation rates, net salvage	Florida Office of Public Counsel
Wyoming Public Service Commission	Rocky Mountain Power	20000-539-EA-18	Depreciation rates, service lives, net salvage	Wyoming Industrial Energy Consumers
Public Service Commission of South Carolina	Dominion Energy South Carolina	2020-125-E	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Pennsylvania Public Utility Commission	The City of Bethlehem	2020-3020256	Cost of capital, awarded rate of return, capital structure	Pennsylvania Office of Consumer Advocate
Railroad Commission of Texas	Texas Gas Services Company	GUD 10928	Depreciation rates, service lives, net salvage	Gulf Coast Service Area Steering Committee
Public Utilities Commission of the State of California	Southern California Edison	A.19-08-013	Depreciation rates, service lives, net salvage	The Utility Reform Network
Massachusetts Department of Public Utilities	NSTAR Gas Company	D.P.U. 19-120	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Georgia Public Service Commission	Liberty Utilities (Peach State Natural Gas)	42959	Depreciation rates, service lives, net salvage	Public Interest Advocacy Staff

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Florida Public Service Commission	Florida Public Utilities Company	20190155-EI 20190156-EI 20190174-EI	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel
Illinois Commerce Commission	Commonwealth Edison Company	20-0393	Depreciation rates, service lives, net salvage	The Office of the Illinois Attorney General
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 49831	Depreciation rates, service lives, net salvage	Alliance of Xcel Municipalities
Public Service Commission of South Carolina	Blue Granite Water Company	2019-290-WS	Depreciation rates, service lives, net salvage	South Carolina Office of Regulatory Staff
Railroad Commission of Texas	CenterPoint Energy Resources	GUD 10920	Depreciation rates and grouping procedure	Alliance of CenterPoint Municipalities
Pennsylvania Public Utility Commission	Aqua Pennsylvania Wastewater / East Norriton Township	A-2019-3009052	Fair market value estimates for wastewater assets	Pennsylvania Office of Consumer Advocate
New Mexico Public Regulation Commission	Southwestern Public Service Company	19-00170-UT	Cost of capital and authorized rate of return	The New Mexico Large Customer Group; Occidental Permian
Indiana Utility Regulatory Commission	Duke Energy Indiana	45253	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Maryland Public Service Commission	Columbia Gas of Maryland	9609	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-190334	Cost of capital, awarded rate of return, capital structure	Washington Office of Attorney General
Indiana Utility Regulatory Commission	Indiana Michigan Power Company	45235	Cost of capital, depreciation rates, net salvage	Indiana Office of Utility Consumer Counselor
Public Utilities Commission of the State of California	Pacific Gas & Electric Company	18-12-009	Depreciation rates, service lives, net salvage	The Utility Reform Network
Oklahoma Corporation Commission	The Empire District Electric Company	PUD 201800133	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Arkansas Public Service Commission	Southwestern Electric Power Company	19-008-U	Cost of capital, depreciation rates, net salvage	Western Arkansas Large Energy Consumers

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Public Utility Commission of Texas	CenterPoint Energy Houston Electric	PUC 49421	Depreciation rates, service lives, net salvage	Texas Coast Utilities Coalition
Massachusetts Department of Public Utilities	Massachusetts Electric Company and Nantucket Electric Company	D.P.U. 18-150	Depreciation rates, service lives, net salvage	Massachusetts Office of the Attorney General, Office of Ratepayer Advocacy
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201800140	Cost of capital, authorized ROE, depreciation rates	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2018.9.60	Depreciation rates, service lives, net salvage	Montana Consumer Counsel and Denbury Onshore
Indiana Utility Regulatory Commission	Northern Indiana Public Service Company	45159	Depreciation rates, grouping procedure, demolition costs	Indiana Office of Utility Consumer Counselor
Public Service Commission of the State of Montana	NorthWestern Energy	D2018.2.12	Depreciation rates, service lives, net salvage	Montana Consumer Counsel
Oklahoma Corporation Commission	Public Service Company of Oklahoma	PUD 201800097	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Wal-Mart
Nevada Public Utilities Commission	Southwest Gas Corporation	18-05031	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	Texas-New Mexico Power Company	PUC 48401	Depreciation rates, service lives, net salvage	Alliance of Texas-New Mexico Power Municipalities
Oklahoma Corporation Commission	Oklahoma Gas & Electric Company	PUD 201700496	Depreciation rates, service lives, net salvage	Oklahoma Industrial Energy Consumers and Oklahoma Energy Results
Maryland Public Service Commission	Washington Gas Light Company	9481	Depreciation rates, service lives, net salvage	Maryland Office of People's Counsel
Indiana Utility Regulatory Commission	Citizens Energy Group	45039	Depreciation rates, service lives, net salvage	Indiana Office of Utility Consumer Counselor
Public Utility Commission of Texas	Entergy Texas, Inc.	PUC 48371	Depreciation rates, decommissioning costs	Texas Municipal Group
Washington Utilities & Transportation Commission	Avista Corporation	UE-180167	Depreciation rates, service lives, net salvage	Washington Office of Attorney General

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
New Mexico Public Regulation Commission	Southwestern Public Service Company	17-00255-UT	Cost of capital and authorized rate of return	HollyFrontier Navajo Refining; Occidental Permian
Public Utility Commission of Texas	Southwestern Public Service Company	PUC 47527	Depreciation rates, plant service lives	Alliance of Xcel Municipalities
Public Service Commission of the State of Montana	Montana-Dakota Utilities Company	D2017.9.79	Depreciation rates, service lives, net salvage	Montana Consumer Counsel
Florida Public Service Commission	Florida City Gas	20170179-GU	Cost of capital, depreciation rates	Florida Office of Public Counsel
Washington Utilities & Transportation Commission	Avista Corporation	UE-170485	Cost of capital and authorized rate of return	Washington Office of Attorney General
Wyoming Public Service Commission	Powder River Energy Corporation	10014-182-CA-17	Credit analysis, cost of capital	Private customer
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201700151	Depreciation, terminal salvage, risk analysis	Oklahoma Industrial Energy Consumers
Public Utility Commission of Texas	Oncor Electric Delivery Company	PUC 46957	Depreciation rates, simulated analysis	Alliance of Oncor Cities
Nevada Public Utilities Commission	Nevada Power Company	17-06004	Depreciation rates, service lives, net salvage	Nevada Bureau of Consumer Protection
Public Utility Commission of Texas	El Paso Electric Company	PUC 46831	Depreciation rates, interim retirements	City of El Paso
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-24	Accelerated depreciation of North Valmy plant	Micron Technology, Inc.
Idaho Public Utilities Commission	Idaho Power Company	IPC-E-16-23	Depreciation rates, service lives, net salvage	Micron Technology, Inc.
Public Utility Commission of Texas	Southwestern Electric Power Company	PUC 46449	Depreciation rates, decommissioning costs	Cities Advocating Reasonable Deregulation
Massachusetts Department of Public Utilities	Eversource Energy	D.P.U. 17-05	Cost of capital, capital structure, and rate of return	Sunrun Inc.; Energy Freedom Coalition of America

Utility Regulatory Proceedings

Regulatory Agency	Utility Applicant	Docket Number	Issues Addressed	Parties Represented
Railroad Commission of Texas	Atmos Pipeline - Texas	GUD 10580	Depreciation rates, grouping procedure	City of Dallas
Public Utility Commission of Texas	Sharyland Utility Company	PUC 45414	Depreciation rates, simulated analysis	City of Mission
Oklahoma Corporation Commission	Empire District Electric Company	PUD 201600468	Cost of capital, depreciation rates	Oklahoma Industrial Energy Consumers
Railroad Commission of Texas	CenterPoint Energy Texas Gas	GUD 10567	Depreciation rates, simulated plant analysis	Texas Coast Utilities Coalition
Arkansas Public Service Commission	Oklahoma Gas & Electric Company	160-159-GU	Cost of capital, depreciation rates, terminal salvage	Arkansas River Valley Energy Consumers; Wal-Mart
Florida Public Service Commission	Peoples Gas	160-159-GU	Depreciation rates, service lives, net salvage	Florida Office of Public Counsel
Arizona Corporation Commission	Arizona Public Service Company	E-01345A-16-0036	Cost of capital, depreciation rates, terminal salvage	Energy Freedom Coalition of America
Nevada Public Utilities Commission	Sierra Pacific Power Company	16-06008	Depreciation rates, net salvage, theoretical reserve	Northern Nevada Utility Customers
Oklahoma Corporation Commission	Oklahoma Gas & Electric Co.	PUD 201500273	Cost of capital, depreciation rates, terminal salvage	Public Utility Division
Oklahoma Corporation Commission	Public Service Co. of Oklahoma	PUD 201500208	Cost of capital, depreciation rates, terminal salvage	Public Utility Division
Oklahoma Corporation Commission	Oklahoma Natural Gas Company	PUD 201500213	Cost of capital, depreciation rates, net salvage	Public Utility Division

Summary Rate and Accrual Adjustment

2023 DEPRECIATION STUDY

Company	Plant 12/31/2023	Company Position Rate	Company Position Annual Accrual	OCA Position Rate	OCA Position Annual Accrual	OCA Adjustment Rate	OCA Adjustment Annual Accrual
Metropolitan Edison Company	3,272,706,643	2.73%	89,309,768	2.15%	70,504,001	-0.57%	(18,805,767)
Pennsylvania Electric Company	3,639,434,152	2.74%	99,738,752	2.24%	81,382,218	-0.50%	(18,356,534)
Pennsylvania Power Company	913,642,934	2.86%	26,122,167	2.27%	20,735,823	-0.59%	(5,386,344)
West Penn Power Company	3,352,419,894	2.82%	94,700,731	2.40%	80,390,734	-0.43%	(14,309,997)
TOTAL PLANT STUDIED	**$ 11,178,203,623**	**2.77%**	**$ 309,871,418**	**2.26%**	**$ 253,012,777**	**-0.51%**	**$ (56,858,641)**

2024 DEPRECIATION STUDY

Company	Plant 12/31/2024	Company Position Rate	Company Position Annual Accrual	OCA Position Rate	OCA Position Annual Accrual	OCA Adjustment Rate	OCA Adjustment Annual Accrual
Metropolitan Edison Company	3,422,742,802	2.72%	93,165,394	2.14%	73,165,980	-0.58%	(19,999,414)
Pennsylvania Electric Company	3,804,171,384	2.70%	102,743,641	2.20%	83,534,847	-0.50%	(19,208,794)
Pennsylvania Power Company	951,417,497	2.80%	26,639,950	2.23%	21,226,521	-0.57%	(5,413,429)
West Penn Power Company	3,443,611,175	2.83%	97,346,095	2.39%	82,437,097	-0.43%	(14,908,998)
TOTAL PLANT STUDIED	**$ 11,621,942,858**	**2.75%**	**$ 319,895,080**	**2.24%**	**$ 260,364,446**	**-0.51%**	**$ (59,530,634)**

2025 DEPRECIATION STUDY

Company	Plant 12/31/2025	Company Position Rate	Company Position Annual Accrual	OCA Position Rate	OCA Position Annual Accrual	OCA Adjustment Rate	OCA Adjustment Annual Accrual
Metropolitan Edison Company	3,587,269,420	2.70%	97,029,590	2.11%	75,664,741	-0.60%	(21,364,849)
Pennsylvania Electric Company	3,975,917,517	2.68%	106,498,868	2.18%	86,512,571	-0.50%	(19,986,297)
Pennsylvania Power Company	1,010,081,809	2.75%	27,799,609	2.18%	22,045,653	-0.57%	(5,753,956)
West Penn Power Company	3,626,634,708	2.75%	99,727,866	2.32%	84,259,311	-0.43%	(15,468,555)
TOTAL PLANT STUDIED	**$ 12,199,903,454**	**2.71%**	**$ 331,055,933**	**2.20%**	**$ 268,482,276**	**-0.51%**	**$ (62,573,657)**

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
	METROPOLITAN EDISON COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	63,956,214		4,718,897	0.00%	4,718,897	0.00%	0
303.10	SOFTWARE - CLOUD	12,206		2,350	0.00%	2,350	0.00%	0
303.30	SOFTWARE - PROJECT ENTERPRISE	621,985		0	0.00%	0	0.00%	0
303.60	SOFTWARE - PROJECT EVOLUTION	8,047,879		0	0.00%	0	0.00%	0
303.90	SMART METER SOFTWARE	23,963,763		511,175	0.00%	511,175	0.00%	0
	Total Intangible Plant	96,602,047	5.42%	5,232,422	5.42%	5,232,422	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	28,932,719	0.97%	280,929	0.95%	275,813	-0.02%	-5,116
361.00	STRUCTURES AND IMPROVEMENTS	17,763,919	1.40%	248,763	1.31%	231,868	-0.09%	-16,895
361.10	STRUCTURES - SUBTRANS	339,223	1.56%	5,303	1.36%	4,601	-0.20%	-702
361.20	STRUCTURES - SUBTRANS (ROADS AND TRAILS)	11,908	0.75%	89	0.85%	102	0.10%	13
362.00	STATION EQUIPMENT	309,357,654	1.93%	5,960,068	1.57%	4,859,287	-0.36%	-1,100,781
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,919,660	2.27%	270,967	1.70%	203,140	-0.57%	-67,827
364.00	POLES, TOWERS AND FIXTURES	550,420,242	1.97%	10,837,791	1.46%	8,060,085	-0.51%	-2,777,706
364.10	POLES, TOWERS AND FIXTURES - SUBTRANS	36,126	0.68%	247	0.82%	296	0.14%	49
364.11	POLES, TOWERS AND FIXTURES - SUBTRANS	3,234,422	2.15%	69,581	1.41%	45,611	-0.74%	-23,970
365.00	OH CONDUCTORS AND DEVICES	615,842,497	2.82%	17,392,699	1.64%	10,094,875	-1.18%	-7,297,824
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	1,345,668	2.03%	27,334	1.38%	18,518	-0.65%	-8,816
365.10	OH CONDUCTORS - CLEARING AND ROW	229,365,878	1.50%	3,443,018	1.41%	3,229,503	-0.09%	-213,515
365.11	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	429,030	0.26%	1,118	0.41%	1,740	0.15%	622
366.00	UG CONDUIT	35,459,380	1.68%	595,027	1.37%	486,415	-0.31%	-108,612
367.00	UG CONDUCTORS AND DEVICES	318,307,594	2.24%	7,124,098	1.83%	5,821,281	-0.41%	-1,302,817
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,536,544	2.39%	36,732	1.88%	28,933	-0.51%	-7,799
368.00	LINE TRANSFORMERS	491,325,880	2.69%	13,194,397	2.13%	10,480,097	-0.56%	-2,714,300
369.00	OVERHEAD SERVICES	95,311,337	3.00%	2,859,411	2.21%	2,103,140	-0.79%	-756,271
369.10	UNDERGROUND SERVICES	104,058,162	1.33%	1,384,220	1.22%	1,265,183	-0.11%	-119,037
370.10	METERS - SMART GRID	141,705,232	8.82%	12,497,947	7.45%	10,556,963	-1.37%	-1,940,984
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	4,173,138	2.07%	86,453	1.69%	70,571	-0.38%	-15,882

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
371.21	INSTALLATIONS - METER SOCKET DEVICES	412,208	1.36%	5,596	1.24%	5,094	-0.12%	-502
371.23	INSTALLATIONS - SURGE SUPPRESSION	276,708	0.00%	0	0.00%	0	0.00%	0
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	15,691,234	5.32%	834,427	3.70%	580,945	-1.62%	-253,482
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	3,425,435	7.79%	267,005	5.41%	185,396	-2.38%	-81,609
	Total Distribution Plant	2,980,681,796	2.60%	77,423,220	1.97%	58,609,454	-0.63%	-18,813,766
	General Plant							
389.20	TRANSPORTATION EQUIPMENT	18,078	0.39%	71	0.39%	71	0.00%	0
390.10	STRUCTURES AND IMPROVEMENTS							
	MISCELLANEOUS IMPROVEMENTS - MINOR	32,245,573	3.28%	1,058,252	3.29%	1,060,742	0.01%	2,490
	CORPORATE HEADQUARTERS - READING	61,295,116	2.89%	1,770,066	2.89%	1,770,551	0.00%	485
	LEBANON SERVICE CENTER	6,666,050	1.81%	120,831	1.81%	120,651	0.00%	-180
	EASTON SERVICE CENTER	6,624,642	3.53%	234,083	3.54%	234,629	0.01%	546
	YORK SERVICE CENTER	11,999,309	5.56%	667,708	5.59%	670,186	0.03%	2,478
	TOTAL ACCOUNT 390.10	118,830,690	3.24%	3,850,940	3.25%	3,856,759	0.00%	5,819
390.20	STRUCTURES - CLEARING AND GRADING							
	MISCELLANEOUS IMPROVEMENTS - MINOR	4,330,386	0.63%	27,212	0.63%	27,137	0.00%	-75
	CORPORATE HEADQUARTERS - READING	5,116,043	3.22%	164,872	3.22%	164,945	0.00%	73
	LEBANON SERVICE CENTER	1,009,739	0.51%	5,129	0.51%	5,140	0.00%	11
	EASTON SERVICE CENTER	1,341,061	0.96%	12,855	0.96%	12,816	0.00%	-39
	YORK SERVICE CENTER	1,795,373	2.39%	42,822	2.38%	42,656	-0.01%	-166
	TOTAL ACCOUNT 390.20	13,592,602	1.86%	252,890	1.86%	252,694	0.00%	-196
391.00	OFFICE FURNITURE - FURNITURE	2,743,184	3.75%	102,842	3.76%	103,182	0.01%	340
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	3,716,738	8.19%	304,584	8.16%	303,340	-0.03%	-1,244
391.50	OFFICE FURNITURE - DATA PROCESSING SMART METERS	3,590,922	2.78%	99,752	2.77%	99,345	-0.01%	-407
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	4,905,873	7.91%	387,900	7.91%	387,820	0.00%	-80
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	668,412	1.19%	7,948	1.19%	7,977	0.00%	29
392.50	TRANSPORTATION EQUIPMENT - VAN TRAILERS	87,237	0.47%	411	0.48%	415	0.01%	4
393.00	STORES EQUIPMENT	300,486	0.38%	1,150	0.38%	1,153	0.00%	3
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	12,658,914	3.60%	455,322	3.60%	456,259	0.00%	937

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
395.00	LABORATORY EQUIPMENT	85,698	0.00%	0	0.00%	0	0.00%	0
396.00	POWER OPERATED EQUIPMENT	1,248,544	3.32%	41,439	3.32%	41,506	0.00%	67
397.00	COMMUNICATION EQUIPMENT	32,899,710	3.49%	1,147,479	3.50%	1,150,207	0.01%	2,728
398.00	MISCELLANEOUS EQUIPMENT	75,711	1.85%	1,398	1.84%	1,396	-0.01%	-2
	Total General Plant	195,422,800	3.40%	6,654,126	3.41%	6,662,125	0.00%	7,999
	Total Plant Studied - MetEd	**3,272,706,643**	**2.73%**	**89,309,768**	**2.15%**	**70,504,001**	**-0.57%**	**-18,805,767**
	PENNSYLVANIA ELECTRIC COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	69,183,971		6,326,772	0.00%	6,326,772	0.00%	0
303.30	SOFTWARE - PROJECT EVOLUTION	9,079,604		0	0.00%	0	0.00%	0
303.60	SMART METER SOFTWARE	24,493,521		177,942	0.00%	177,942	0.00%	0
303.70	SOFTWARE - CLOUD	12,280		3,509	0.00%	3,509	0.00%	0
	Total Intangible Plant	102,769,375	6.33%	6,508,223	6.33%	6,508,223	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	15,602,749	0.85%	132,865	0.89%	139,231	0.04%	6,366
361.00	STRUCTURES AND IMPROVEMENTS	18,368,482	1.26%	231,181	1.24%	228,160	-0.02%	-3,021
361.10	STRUCTURES - SUBTRANS	427,196	1.07%	4,580	0.90%	3,854	-0.17%	-726
362.00	STATION EQUIPMENT	365,312,724	1.91%	6,972,878	1.46%	5,338,642	-0.45%	-1,634,236
362.10	STATION EQUIPMENT - SUBTRANS	11,560,396	2.60%	300,326	1.84%	212,304	-0.76%	-88,022
364.00	POLES, TOWERS AND FIXTURES	685,497,021	1.68%	11,488,734	1.49%	10,186,967	-0.19%	-1,301,767
364.20	POLES AND FIXTURES - SUBTRANSMISSION	535,896	2.47%	13,225	2.07%	11,094	-0.40%	-2,131
365.00	OH CONDUCTORS AND DEVICES	904,045,475	2.50%	22,573,875	1.65%	14,886,004	-0.85%	-7,687,871
365.10	OH CONDUCTORS - CLEARING AND ROW	283,177,860	1.39%	3,922,824	1.30%	3,694,255	-0.09%	-228,569
365.20	OVERHEAD CONDUCTORS - SUBTRANS	750,194	2.72%	20,438	1.66%	12,450	-1.06%	-7,988
365.30	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	37,157	1.04%	387	0.97%	361	-0.07%	-26

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
366.00	UG CONDUIT	45,920,580	1.63%	748,146	1.37%	629,674	-0.26%	-118,472
367.00	UG CONDUCTORS AND DEVICES	229,294,534	2.51%	5,765,533	2.16%	4,941,657	-0.35%	-823,876
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,286,184	2.84%	36,574	2.26%	29,113	-0.58%	-7,461
368.00	LINE TRANSFORMERS	448,018,887	2.65%	11,892,705	2.02%	9,067,067	-0.63%	-2,825,638
369.00	OVERHEAD SERVICES	89,658,680	2.15%	1,926,184	1.57%	1,405,631	-0.58%	-520,553
369.10	UNDERGROUND SERVICES	48,077,323	1.03%	494,771	0.88%	422,606	-0.15%	-72,165
370.10	METERS - SMART GRID	140,631,458	9.02%	12,687,250	7.61%	10,697,658	-1.41%	-1,989,592
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	28,306,985	1.60%	454,254	1.52%	431,541	-0.08%	-22,713
371.21	INSTALLATIONS - METER SOCKET DEVICES	223,738	1.56%	3,487	1.42%	3,176	-0.14%	-311
371.23	INSTALLATIONS - SURGE SUPPRESSION	147,697	0.00%	0	0.00%	0	0.00%	0
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	196,313	0.07%	139	0.13%	257	0.06%	118
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	34,316,080	9.03%	3,099,573	6.50%	2,231,293	-2.53%	-868,280
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	8,566,867	6.60%	565,158	4.55%	390,093	-2.05%	-175,065
	Total Distribution Plant	3,359,960,478	2.48%	83,335,087	1.93%	64,963,090	-0.55%	-18,371,997
	General Plant							
389.20	LAND RIGHTS	20,957	0.00%	0	0.00%	0	0.00%	0
390.10	STRUCTURES AND IMPROVEMENTS							
	MISCELLANEOUS IMPROVEMENTS - MINOR	39,133,430	2.76%	1,080,949	2.76%	1,080,259	0.00%	-690
	RICHLAND OPERATING CENTER	9,596,191	3.22%	309,022	3.22%	308,616	0.00%	-406
	ERIE OPERATING CENTER	17,496,857	3.94%	689,402	3.94%	689,746	0.00%	344
	ALTOONA OPERATING CENTER	12,755,018	3.72%	474,596	3.72%	474,286	0.00%	-310
	TOTAL ACCOUNT 390.10	78,981,497	3.23%	2,553,969	3.23%	2,552,906	0.00%	-1,063
390.20	MISCELLANEOUS IMPROVEMENTS	7,098,844	1.32%	93,927	1.32%	94,021	0.00%	94
391.00	OFFICE FURNITURE - FURNITURE	478,529	1.45%	6,935	1.45%	6,927	0.00%	-8
391.20	OFFICE FURNITURE - OFFICE MACHINES	948	0.00%	0	0.00%	0	0.00%	0
391.25	OFFICE FURNITURE - DATA PROCESSING SMART METERS	6,855,160	17.70%	1,213,307	18.12%	1,242,439	0.42%	29,132
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	4,712,204	19.41%	914,439	19.07%	898,648	-0.34%	-15,791
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	623,578	11.00%	68,591	11.12%	69,327	0.12%	736
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	2,849,420	3.73%	106,280	3.71%	105,839	-0.02%	-441
392.50	TRANSPORTATION EQUIPMENT - OTHER	5,933,430	6.61%	392,477	6.58%	390,146	-0.03%	-2,331

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
393.00	STORES EQUIPMENT	583,403	0.00%	0	0.00%	0	0.00%	0
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	18,533,885	4.65%	861,671	4.66%	864,453	0.01%	2,782
395.00	LABORATORY EQUIPMENT	169,785	0.00%	0	0.00%	0	0.00%	0
396.00	POWER OPERATED EQUIPMENT	5,158,780	0.57%	29,615	0.57%	29,608	0.00%	-7
397.00	COMMUNICATION EQUIPMENT	44,631,038	8.18%	3,652,645	8.19%	3,655,007	0.01%	2,362
398.00	MISCELLANEOUS EQUIPMENT	72,841	2.18%	1,586	2.17%	1,584	-0.01%	-2
	Total General Plant	176,704,299	5.60%	9,895,442	5.61%	9,910,905	0.01%	15,463
	Total Plant Studied - Penelec	**3,639,434,152**	**2.74%**	**99,738,752**	**2.24%**	**81,382,218**	**-0.50%**	**-18,356,534**
	PENNSYLVANIA POWER COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	16,818,908		1,342,614	0.00%	1,342,614	0.00%	0
303.10	SMART METER SOFTWARE	6,957,286		175,578	0.00%	175,578	0.00%	0
303.70	SOFTWARE - CLOUD	3,934		759	0.00%	759	0.00%	0
	Total Intangible Plant	23,780,128	6.39%	1,518,951	6.39%	1,518,951	0.00%	0
	Distribution Plant							
361.10	STRUCTURES AND IMPROVEMENTS	3,462,547	1.42%	49,018	1.37%	47,512	-0.05%	-1,506
361.11	STRUCTURES - SUBTRANS	790,187	0.67%	5,258	0.84%	6,611	0.17%	1,353
361.20	STRUCTURES - CLEARING AND GRADING	454,298	1.18%	5,354	1.11%	5,057	-0.07%	-297
361.21	STRUCTURES - CLEARING AND GRADING - SUBTRANS	195,216	0.98%	1,905	0.91%	1,769	-0.07%	-136
362.00	STATION EQUIPMENT	105,561,344	2.71%	2,856,377	1.83%	1,933,972	-0.88%	-922,405
362.10	STATION EQUIPMENT - SUBTRANS	8,536,992	1.47%	125,395	1.29%	110,025	-0.18%	-15,370
364.00	POLES, TOWERS AND FIXTURES	147,023,829	1.83%	2,691,783	1.39%	2,040,533	-0.44%	-651,250
364.10	TOWERS AND FIXTURES - SUBTRANS	7,576	0.07%	5	0.07%	5	0.00%	0
364.20	POLES AND FIXTURES - SUBTRANS	3,142,285	1.73%	54,267	1.37%	43,123	-0.36%	-11,144
365.00	OH CONDUCTORS AND DEVICES	174,773,789	2.28%	3,978,023	1.55%	2,704,241	-0.73%	-1,273,782

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	3,332,630	1.99%	66,359	1.42%	47,357	-0.57%	-19,002
365.10	OH CONDUCTORS - CLEARING AND GRADING	78,494,769	2.11%	1,654,378	1.46%	1,142,358	-0.65%	-512,020
366.00	UG CONDUIT	8,083,551	1.44%	116,403	1.25%	101,076	-0.19%	-15,327
366.10	UG CONDUIT - SUBTRANS	64,654	0.32%	208	0.29%	186	-0.03%	-22
367.00	UG CONDUCTORS AND DEVICES	91,532,113	2.28%	2,090,255	1.93%	1,766,127	-0.35%	-324,128
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	108,081	1.94%	2,094	1.79%	1,931	-0.15%	-163
368.00	LINE TRANSFORMERS	129,414,333	2.99%	3,864,806	2.29%	2,963,815	-0.70%	-900,991
369.00	SERVICES	46,965,791	1.25%	585,773	1.31%	613,813	0.06%	28,040
370.10	METERS - SMART GRID	49,038,184	8.80%	4,314,548	7.44%	3,649,318	-1.36%	-665,230
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	4,092,193	2.03%	83,068	2.07%	84,621	0.04%	1,553
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	3,725,718	7.71%	287,325	5.61%	208,848	-2.10%	-78,477
373.20	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	24,978	8.19%	2,046	6.89%	1,721	-1.30%	-325
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	4,515,162	6.17%	278,766	4.93%	222,594	-1.24%	-56,172
	Total Distribution Plant	863,340,220	2.68%	23,113,414	2.05%	17,696,613	-0.63%	-5,416,801
	General Plant							
390.10	STRUCTURES AND IMPROVEMENTS	8,159,851	1.80%	146,814	1.86%	151,416	0.06%	4,602
390.20	STRUCTURES - CLEARING AND GRADING	41,241	2.05%	846	2.05%	846	0.00%	0
391.10	OFFICE FURNITURE AND EQUIPMENT	49,259	10.15%	5,002	10.32%	5,084	0.17%	82
391.20	OFFICE FURNITURE - DATA PROCESSING EQUIP	807,053	8.66%	69,892	8.61%	69,494	-0.05%	-398
391.25	OFFICE FURNITURE - PROCESSING EQUIP SMART GRID	1,985,481	7.35%	145,913	6.57%	130,538	-0.78%	-15,375
392.00	TRANSPORTATION EQUIPMENT	1,434,453	6.55%	94,008	6.50%	93,183	-0.05%	-825
393.00	STORES EQUIPMENT	26,718	0.72%	192	0.72%	192	0.00%	0
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	3,127,469	4.23%	132,268	4.45%	139,278	0.22%	7,010
395.00	LABORATORY EQUIPMENT	21,540	5.77%	1,243	5.77%	1,243	0.00%	0
396.00	POWER OPERATED EQUIPMENT	1,391,715	4.90%	68,163	4.91%	68,281	0.01%	118
397.00	COMMUNICATION EQUIPMENT	9,470,211	8.72%	825,461	9.09%	860,704	0.37%	35,243
398.00	MISCELLANEOUS EQUIPMENT	7,595	0.00%	0	0.00%	0	0.00%	0
	Total General Plant	26,522,586	5.62%	1,489,802	5.73%	1,520,259	0.11%	30,457
	Total Plant Studied - Penn Power	**913,642,934**	**2.86%**	**26,122,167**	**2.27%**	**20,735,823**	**-0.59%**	**-5,386,344**

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
	WEST PENN POWER COMPANY							
	Intangible Plant							
303.10	SOFTWARE - 7 YEAR LIFE	62,032,058		8,380,264	0.00%	8,380,264	0.00%	0
303.20	SOFTWARE - 10 YEAR LIFE	60,428,775		542,876	0.00%	542,876	0.00%	0
303.30	SOFTWARE - CLOUD	15,207		2,749	0.00%	2,749	0.00%	0
	Total Intangible Plant	122,476,040	7.29%	8,925,889	7.29%	8,925,889	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	10,877,053	1.75%	190,658	1.43%	155,130	-0.32%	-35,528
361.00	STRUCTURES AND IMPROVEMENTS	24,234,956	1.31%	318,345	1.22%	296,362	-0.09%	-21,983
362.10	STATION EQUIPMENT	390,774,682	1.67%	6,540,660	1.36%	5,308,794	-0.31%	-1,231,866
362.15	STATION EQUIPMENT - SUBTRANS	18,897,056	1.50%	283,496	1.23%	232,113	-0.27%	-51,383
362.40	STATION EQUIPMENT - SCADA	4,897,085	0.61%	29,968	0.75%	36,738	0.14%	6,770
364.00	POLES, TOWERS AND FIXTURES	417,086,552	1.55%	6,477,374	1.26%	5,236,141	-0.29%	-1,241,233
364.55	POLES AND FIXTURES - SUBTRANS	73,660,720	1.36%	1,004,691	1.20%	883,295	-0.16%	-121,396
365.10	OH CONDUCTORS AND DEVICES	515,295,123	2.50%	12,872,553	1.69%	8,702,209	-0.81%	-4,170,344
365.15	OH CONDUCTORS AND DEVICES - SUBTRANS	57,488,342	2.00%	1,149,192	1.52%	875,687	-0.48%	-273,505
365.20	OH CONDUCTORS - CLEARING AND DAMAGES	316,219,698	1.44%	4,550,135	1.33%	4,220,742	-0.11%	-329,393
365.25	OH CONDUCTORS - CLEARING - SUBTRANS	24,960,133	1.38%	345,404	1.30%	325,201	-0.08%	-20,203
366.00	UG CONDUIT	24,641,325	1.76%	434,066	1.55%	380,866	-0.21%	-53,200
366.50	UG CONDUIT - SUBTRANS	11,035	1.81%	200	1.58%	174	-0.23%	-26
367.00	UG CONDUCTORS AND DEVICES	225,822,089	2.04%	4,604,484	1.71%	3,863,639	-0.33%	-740,845
367.50	UG CONDUCTORS AND DEVICES - SUBTRANS	13,620,058	1.74%	236,906	1.51%	205,157	-0.23%	-31,749
368.00	LINE TRANSFORMERS	476,001,321	2.40%	11,436,487	1.89%	9,012,150	-0.51%	-2,424,337
369.00	SERVICES	138,445,714	1.71%	2,365,942	1.54%	2,138,647	-0.17%	-227,295
370.30	METERS - SMART GRID	195,829,928	8.37%	16,385,816	7.09%	13,892,623	-1.28%	-2,493,193
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	9,987,325	2.30%	229,461	2.10%	209,442	-0.20%	-20,019
372.00	LEASED PROPERTY	296,619	0.90%	2,673	0.80%	2,378	-0.10%	-295
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	24,221,713	6.70%	1,623,025	4.54%	1,099,132	-2.16%	-523,893

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	21,415,837	7.70%	1,650,018	6.14%	1,315,167	-1.56%	-334,851
	Total Distribution Plant	2,984,684,365	2.44%	72,731,554	1.96%	58,391,786	-0.48%	-14,339,768
	General Plant							
389.20	LAND RIGHTS	293,153	1.36%	3,995	1.36%	3,993	0.00%	-2
390.10	STRUCTURES AND IMPROVEMENTS							
	ARNOLD SERVICE CENTER	3,100,077	6.57%	203,544	6.57%	203,660	0.00%	116
	BOYCE SERVICE CENTER	2,167,493	3.80%	82,379	3.81%	82,476	0.01%	97
	BUTLER SERVICE CENTER	2,854,446	5.51%	157,364	5.52%	157,536	0.01%	172
	CHARLEROI SERVICE CENTER	4,892,376	3.08%	150,504	3.08%	150,738	0.00%	234
	CLARION SERVICE CENTER AND POLE YARD	1,754,808	3.74%	65,612	3.74%	65,566	0.00%	-46
	CONNELLSVILLE CONFERENCE CENTER	2,806,195	2.82%	79,109	2.82%	79,255	0.00%	146
	CONNELLSVILLE HAZARDOUS MATERIAL	706,428	3.04%	21,468	3.04%	21,500	0.00%	32
	CONNELLSVILLE METER LAB AND STOREHOUSE	828,706	0.01%	77	0.01%	77	0.00%	0
	CONNELLSVILLE COVERED STORAGE AND OFFICE	10,236,714	4.36%	445,835	4.36%	446,315	0.00%	480
	CONNELLSVILLE QUONSET STOREHOUSE	193,295	0.00%	0	0.00%	0	0.00%	0
	CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	2,169,792	3.90%	84,631	3.91%	84,758	0.01%	127
	CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	527,203	0.00%	0	0.00%	0	0.00%	0
	CONNELLSVILLE GARAGE	4,104,512	3.23%	132,629	3.23%	132,458	0.00%	-171
	CONNELLSVILLE WEST SIDE COMPLEX	2,128,076	1.58%	33,529	1.57%	33,495	-0.01%	-34
	DUNBAR STORAGE FACILITY	2,682,456	4.83%	129,436	4.82%	129,246	-0.01%	-190
	GREENSBURG CORP CENTER A WING	2,651,022	2.17%	57,419	2.17%	57,474	0.00%	55
	GREENSBURG CORP CENTER B WING	24,295,755	3.13%	761,362	3.14%	762,233	0.01%	871
	GREENSBURG CORP CENTER C WING	7,498,890	3.26%	244,756	3.26%	244,366	0.00%	-390
	GREENSBURG CORP CENTER MAIN BUILDING	34,597,548	3.30%	1,142,848	3.30%	1,140,305	0.00%	-2,543
	GREENSBURG CORP CENTER PARKING GARAGE	2,456,837	0.70%	17,268	0.70%	17,280	0.00%	12
	JEANETTE SERVICE CENTER	6,258,973	1.62%	101,158	1.61%	101,038	-0.01%	-120
	JEANETTE SERVICE CENTER GARAGE	921,620	2.84%	26,160	2.84%	26,189	0.00%	29
	JEFFERSON SERVICE CENTER	2,287,324	4.16%	95,058	4.17%	95,422	0.01%	364
	KITTANNING SERVICE CENTER	3,307,079	1.73%	57,334	1.73%	57,224	0.00%	-110
	KITTANNING SERVICE CENTER GARAGE	745,933	2.27%	16,946	2.28%	16,973	0.01%	27
	LATROBE SERVICE CENTER	2,513,146	4.44%	111,683	4.42%	111,094	-0.02%	-589

Detailed Rate Comparison - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
	MCCONNELLSBURG SERVICE CENTER	1,472,017	4.01%	59,001	4.02%	59,113	0.01%	112
	PLEASANT VALLEY SERVICE CENTER	3,263,966	4.42%	144,202	4.43%	144,717	0.01%	515
	ST. MARYS SERVICE CENTER	4,339,296	2.93%	127,210	2.93%	127,130	0.00%	-80
	ST. MARYS SERVICE CENTER GARAGE	1,785,129	3.44%	61,375	3.45%	61,508	0.01%	133
	STATE COLLEGE SERVICE CENTER GARAGE	1,961,300	2.92%	57,240	2.91%	57,089	-0.01%	-151
	WASHINGTON SERVICE CENTER	5,120,543	7.94%	406,727	7.96%	407,472	0.02%	745
	WAYNESBORO SERVICE CENTER	3,395,224	3.11%	105,761	3.11%	105,533	0.00%	-228
	WAYNESBORO SERVICE CENTER GARAGE	962,920	2.92%	28,115	2.92%	28,107	0.00%	-8
	MINOR STRUCTURES	4,827,558	5.62%	271,100	5.64%	272,039	0.02%	939
	TOTAL ACCOUNT 390.10	155,814,656	3.52%	5,478,840	3.52%	5,479,385	0.00%	545
391.10	OFFICE FURNITURE - FURNITURE	3,306,494	5.60%	185,187	5.57%	184,019	-0.03%	-1,168
391.20	OFFICE FURNITURE - INFORMATION SYSTEMS	7,378,813	15.22%	1,123,152	15.37%	1,133,968	0.15%	10,816
391.30	OFFICE FURNITURE - DATA HANDLING EQUIPMENT	21,151	0.00%	0	0.00%	0	0.00%	0
391.50	OFFICE FURNITURE - SMART METERS HARDWARE	4,026,192	4.25%	171,219	4.21%	169,449	-0.04%	-1,770
392.10	TRANSPORTATION EQUIP - AUTOS	8,058,657	14.35%	1,156,085	14.42%	1,162,444	0.07%	6,359
392.20	TRANSPORTATION EQUIP - LIGHT TRUCKS	1,386,702	12.15%	168,427	12.07%	167,338	-0.08%	-1,089
392.30	TRANSPORTATION EQUIP - MEDIUM AND HEAVY TRUCKS	805,638	16.06%	129,420	16.23%	130,779	0.17%	1,359
392.40	TRANSPORTATION EQUIP - TRAILERS	438,040	2.16%	9,448	2.16%	9,450	0.00%	2
392.60	TRANSPORTATION EQUIP - ALL TERRAIN VEHICLES	200,859	9.51%	19,104	9.51%	19,104	0.00%	0
393.00	STORES EQUIPMENT	311,863	3.68%	11,486	3.71%	11,562	0.03%	76
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,368,728	6.15%	1,191,234	6.12%	1,184,879	-0.03%	-6,355
395.00	LABORATORY EQUIPMENT	451,987	2.77%	12,516	2.77%	12,508	0.00%	-8
396.00	POWER OPERATED EQUIPMENT	265,470	1.82%	4,823	1.81%	4,815	-0.01%	-8
397.00	COMMUNICATION EQUIPMENT	42,855,543	7.88%	3,378,352	7.93%	3,399,366	0.05%	21,014
398.00	MISCELLANEOUS EQUIPMENT	275,542	0.00%	0	0.00%	0	0.00%	0
	Total General Plant	245,259,489	5.32%	13,043,288	5.33%	13,073,059	0.01%	29,771
	Total Plant Studied - WPP	**3,352,419,894**	**2.82%**	**94,700,731**	**2.40%**	**80,390,734**	**-0.43%**	**-14,309,997**
	TOTAL PLANT STUDIED	**11,178,203,623**	**2.77%**	**309,871,418**	**2.26%**	**253,012,777**	**-0.51%**	**-56,858,641**

Detailed Rate Comparison - 2023

		[1]	[2]		[3]		[4]	
			Company Position		OCA Position		OCA Adjustment	
Account No.	Description	Plant 12/31/2023	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual

[1], [2] From Company depreciation study

[3] From depreciation rate development exhibit

[4] = [3] - [2]

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
					METROPOLITAN EDISON COMPANY						
	Intangible Plant										
303.00	SOFTWARE - OTHER	63,956,214	SQ	7	0%	63,956,214	42,658,862	21,297,352		4,718,897	
303.10	SOFTWARE - CLOUD	12,206	SQ	5	0%	12,206	3,971	8,235		2,350	
303.30	SOFTWARE - PROJECT ENTERPRISE	621,985	SQ	7	0%	621,985	621,985	0		0	
303.60	SOFTWARE - PROJECT EVOLUTION	8,047,879	SQ	7	0%	8,047,879	8,047,879	0		0	
303.90	SMART METER SOFTWARE	23,963,763	SQ	7	0%	23,963,763	21,931,771	2,031,992		511,175	
	Total Intangible Plant	96,602,047			0%	96,602,047	73,264,468	23,337,579	4.46	5,232,422	**5.42%**
	Distribution Plant										
360.20	LAND RIGHTS	28,932,719	R4	80	0%	28,932,719	17,516,800	11,415,919	41.39	275,813	**0.95%**
361.00	STRUCTURES AND IMPROVEMENTS	17,763,919	R3	70	0%	17,763,919	7,237,128	10,526,791	45.40	231,868	**1.31%**
361.10	STRUCTURES - SUBTRANS	339,223	R3	70	0%	339,223	45,320	293,903	63.88	4,601	**1.36%**
361.20	STRUCTURES - SUBTRANS (ROADS AND TRAILS)	11,908	R3	75	0%	11,908	8,716	3,192	31.39	102	**0.85%**
362.00	STATION EQUIPMENT	309,357,654	R2	60	0%	309,357,654	99,290,691	210,066,963	43.23	4,859,287	**1.57%**
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,919,660	R2	60	0%	11,919,660	881,026	11,038,634	54.34	203,140	**1.70%**
364.00	POLES, TOWERS AND FIXTURES	550,420,242	R1.5	65	0%	550,420,242	145,803,985	404,616,257	50.20	8,060,085	**1.46%**
364.10	POLES, TOWERS AND FIXTURES - SUBTRANS	36,126	R4	80	0%	36,126	28,379	7,747	26.21	296	**0.82%**
364.11	POLES, TOWERS AND FIXTURES - SUBTRANS	3,234,422	R1.5	65	0%	3,234,422	747,264	2,487,158	54.53	45,611	**1.41%**
365.00	OH CONDUCTORS AND DEVICES	615,842,497	O1	60	0%	615,842,497	82,429,319	533,413,178	52.84	10,094,875	**1.64%**
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	1,345,668	O1	60	0%	1,345,668	460,707	884,961	47.79	18,518	**1.38%**
365.10	OH CONDUCTORS - CLEARING AND ROW	229,365,878	R4	70	0%	229,365,878	41,957,810	187,408,068	58.03	3,229,503	**1.41%**
365.11	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	429,030	R4	70	0%	429,030	361,004	68,026	39.10	1,740	**0.41%**
366.00	UG CONDUIT	35,459,380	R1.5	65	0%	35,459,380	15,501,756	19,957,624	41.03	486,415	**1.37%**
367.00	UG CONDUCTORS AND DEVICES	318,307,594	R2	50	0%	318,307,594	102,163,438	216,144,156	37.13	5,821,281	**1.83%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,536,544	R2	50	0%	1,536,544	340,763	1,195,781	41.33	28,933	**1.88%**
368.00	LINE TRANSFORMERS	491,325,880	R1.5	43	0%	491,325,880	184,363,843	306,962,037	29.29	10,480,097	**2.13%**
369.00	OVERHEAD SERVICES	95,311,337	R1	44	0%	95,311,337	29,966,776	65,344,561	31.07	2,103,140	**2.21%**
369.10	UNDERGROUND SERVICES	104,058,162	R3	60	0%	104,058,162	62,117,340	41,940,822	33.15	1,265,183	**1.22%**
370.10	METERS - SMART GRID	141,705,232	S2	15	0%	141,705,232	34,868,770	106,836,462	10.12	10,556,963	**7.45%**
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	4,173,138	R0.5	37	0%	4,173,138	2,475,906	1,697,232	24.05	70,571	**1.69%**
371.21	INSTALLATIONS - METER SOCKET DEVICES	412,208	R2.5	25	0%	412,208	385,005	27,203	5.34	5,094	**1.24%**
371.23	INSTALLATIONS - SURGE SUPPRESSION	276,708	S2.5	20	0%	276,708	276,708	0			
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	15,691,234	R1	28	0%	15,691,234	4,147,857	11,543,377	19.87	580,945	**3.70%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	3,425,435	S0	20	0%	3,425,435	284,834	3,140,601	16.94	185,396	**5.41%**
	Total Distribution Plant	2,980,681,796			0%	2,980,681,796	833,661,145	2,147,020,651	36.63	58,609,454	**1.97%**
	General Plant										

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
389.20	TRANSPORTATION EQUIPMENT	18,078	R2	70	0%	18,078	16,239	1,839	25.90	71	**0.39%**
390.10	STRUCTURES AND IMPROVEMENTS										
	MISCELLANEOUS IMPROVEMENTS - MINOR	32,245,573	R1.5	40	0%	32,245,573	10,076,074	22,169,499	20.90	1,060,742	**3.29%**
	CORPORATE HEADQUARTERS - READING	61,295,116	R2	65	0%	61,295,116	32,789,246	28,505,870	16.10	1,770,551	**2.89%**
	LEBANON SERVICE CENTER	6,666,050	R2	65	0%	6,666,050	4,180,636	2,485,414	20.60	120,651	**1.81%**
	EASTON SERVICE CENTER	6,624,642	R2	65	0%	6,624,642	4,466,056	2,158,586	9.20	234,629	**3.54%**
	YORK SERVICE CENTER	11,999,309	R2	65	0%	11,999,309	5,230,426	6,768,883	10.10	670,186	**5.59%**
	TOTAL ACCOUNT 390.10	118,830,690			0%	118,830,690	56,742,438	62,088,252	16.10	3,856,759	**3.25%**
390.20	STRUCTURES - CLEARING AND GRADING										
	MISCELLANEOUS IMPROVEMENTS - MINOR	4,330,386	R1.5	40	0%	4,330,386	3,858,201	472,185	17.40	27,137	**0.63%**
	CORPORATE HEADQUARTERS - READING	5,116,043	R4	65	0%	5,116,043	2,460,422	2,655,621	16.10	164,945	**3.22%**
	LEBANON SERVICE CENTER	1,009,739	R4	65	0%	1,009,739	903,846	105,893	20.60	5,140	**0.51%**
	EASTON SERVICE CENTER	1,341,061	R4	65	0%	1,341,061	1,219,313	121,748	9.50	12,816	**0.96%**
	YORK SERVICE CENTER	1,795,373	R4	65	0%	1,795,373	1,364,550	430,823	10.10	42,656	**2.38%**
	TOTAL ACCOUNT 390.20	13,592,602			0%	13,592,602	9,806,332	3,786,270	14.98	252,694	**1.86%**
391.00	OFFICE FURNITURE - FURNITURE	2,743,184	SQ	20	0%	2,743,184	2,031,229	711,955	6.90	103,182	**3.76%**
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	3,716,738	SQ	5	0%	3,716,738	2,594,381	1,122,357	3.70	303,340	**8.16%**
391.50	OFFICE FURNITURE - DATA PROCESSING SMART METERS	3,590,922	SQ	5	0%	3,590,922	3,173,673	417,249	4.20	99,345	**2.77%**
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	4,905,873	R4	12	0%	4,905,873	1,842,092	3,063,781	7.90	387,820	**7.91%**
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	668,412	S1.5	34	0%	668,412	579,862	88,550	11.10	7,977	**1.19%**
392.50	TRANSPORTATION EQUIPMENT - VAN TRAILERS	87,237	S2.5	25	0%	87,237	85,327	1,910	4.60	415	**0.48%**
393.00	STORES EQUIPMENT	300,486	SQ	25	0%	300,486	287,575	12,911	11.20	1,153	**0.38%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	12,658,914	SQ	25	0%	12,658,914	4,948,136	7,710,778	16.90	456,259	**3.60%**
395.00	LABORATORY EQUIPMENT	85,698	SQ	20	0%	85,698	85,698	0			
396.00	POWER OPERATED EQUIPMENT	1,248,544	R0.5	33	0%	1,248,544	634,259	614,285	14.80	41,506	**3.32%**
397.00	COMMUNICATION EQUIPMENT	32,899,710	SQ	25	0%	32,899,710	11,275,821	21,623,889	18.80	1,150,207	**3.50%**
398.00	MISCELLANEOUS EQUIPMENT	75,711	SQ	20	0%	75,711	63,703	12,008	8.60	1,396	**1.84%**
	Total General Plant	195,422,800			0%	195,422,800	94,166,765	101,256,035	15.20	6,662,125	**3.41%**
	Total Plant Studied - MetEd	**3,272,706,643**			**0%**	**3,272,706,643**	**1,001,092,378**	**2,271,614,265**	**32.22**	**70,504,001**	**2.15%**

PENNSYLVANIA ELECTRIC COMPANY

	Intangible Plant										
303.00	SOFTWARE - OTHER	69,183,971	SQ	7	0%	69,183,971	44,048,988	25,134,983		6,326,772	
303.30	SOFTWARE - PROJECT EVOLUTION	9,079,604	SQ	7	0%	9,079,604	9,079,604	0		0	
303.60	SMART METER SOFTWARE	24,493,521	SQ	7	0%	24,493,521	23,764,344	729,177		177,942	
303.70	SOFTWARE - CLOUD	12,280	SQ	5	0%	12,280	0	12,280		3,509	

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	Total Intangible Plant	102,769,375			0%	102,769,375	76,892,936	25,876,439	3.98	6,508,223	**6.33%**
	Distribution Plant										
360.20	LAND RIGHTS	15,602,749	R3	75	0%	15,602,749	11,151,543	4,451,206	31.97	139,231	**0.89%**
361.00	STRUCTURES AND IMPROVEMENTS	18,368,482	R2.5	65	0%	18,368,482	9,518,153	8,850,330	38.79	228,160	**1.24%**
361.10	STRUCTURES - SUBTRANS	427,196	R2.5	65	0%	427,196	223,053	204,143	52.97	3,854	**0.90%**
362.00	STATION EQUIPMENT	365,312,724	R1.5	62	0%	365,312,724	121,496,952	243,815,772	45.67	5,338,642	**1.46%**
362.10	STATION EQUIPMENT - SUBTRANS	11,560,396	R1.5	62	0%	11,560,396	-468,753	12,029,150	56.66	212,304	**1.84%**
364.00	POLES, TOWERS AND FIXTURES	685,497,021	R3	65	0%	685,497,021	215,164,757	470,332,263	46.17	10,186,967	**1.49%**
364.20	POLES AND FIXTURES - SUBTRANSMISSION	535,896	R3	65	0%	535,896	-118,334	654,230	58.97	11,094	**2.07%**
365.00	OH CONDUCTORS AND DEVICES	904,045,475	R0.5	60	0%	904,045,475	174,631,282	729,414,193	49.00	14,886,004	**1.65%**
365.10	OH CONDUCTORS - CLEARING AND ROW	283,177,860	R4	75	0%	283,177,860	45,895,848	237,282,012	64.23	3,694,255	**1.30%**
365.20	OVERHEAD CONDUCTORS - SUBTRANS	750,194	R0.5	60	0%	750,194	73,429	676,765	54.36	12,450	**1.66%**
365.30	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	37,157	R4	75	0%	37,157	13,582	23,575	65.23	361	**0.97%**
366.00	UG CONDUIT	45,920,580	R2	65	0%	45,920,580	19,751,328	26,169,252	41.56	629,674	**1.37%**
367.00	UG CONDUCTORS AND DEVICES	229,294,534	R2.5	44	0%	229,294,534	82,131,978	147,162,556	29.78	4,941,657	**2.16%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,286,184	R2.5	44	0%	1,286,184	101,558	1,184,626	40.69	29,113	**2.26%**
368.00	LINE TRANSFORMERS	448,018,887	R1	44	0%	448,018,887	167,665,163	280,353,723	30.92	9,067,067	**2.02%**
369.00	OVERHEAD SERVICES	89,658,680	R1	60	0%	89,658,680	27,164,339	62,494,341	44.46	1,405,631	**1.57%**
369.10	UNDERGROUND SERVICES	48,077,323	R1	60	0%	48,077,323	31,836,567	16,240,757	38.43	422,606	**0.88%**
370.10	METERS - SMART GRID	140,631,458	S2	15	0%	140,631,458	38,575,797	102,055,661	9.54	10,697,658	**7.61%**
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	28,306,985	R0.5	30	0%	28,306,985	21,829,551	6,477,435	15.01	431,541	**1.52%**
371.21	INSTALLATIONS - METER SOCKET DEVICES	223,738	R2.5	25	0%	223,738	206,749	16,990	5.35	3,176	**1.42%**
371.23	INSTALLATIONS - SURGE SUPPRESSION	147,697	S3	20	0%	147,697	147,697	0			
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	196,313	R3	40	0%	196,313	193,440	2,873	11.18	257	**0.13%**
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	34,316,080	R1	20	0%	34,316,080	3,635,795	30,680,285	13.75	2,231,293	**6.50%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	8,566,867	R1	20	0%	8,566,867	1,865,067	6,701,801	17.18	390,093	**4.55%**
	Total Distribution Plant	3,359,960,478			0%	3,359,960,478	972,686,540	2,387,273,938	36.75	64,963,090	**1.93%**
	General Plant										
389.20	LAND RIGHTS	20,957	R3	70	0%	20,957	212,239	-191,283			
390.10	STRUCTURES AND IMPROVEMENTS										
	MISCELLANEOUS IMPROVEMENTS - MINOR	39,133,430	S0	45	0%	39,133,430	12,991,170	26,142,260	24.20	1,080,259	**2.76%**
	RICHLAND OPERATING CENTER	9,596,191	S0	80	0%	9,596,191	5,676,773	3,919,418	12.70	308,616	**3.22%**
	ERIE OPERATING CENTER	17,496,857	S0	80	0%	17,496,857	7,426,563	10,070,294	14.60	689,746	**3.94%**
	ALTOONA OPERATING CENTER	12,755,018	S0	80	0%	12,755,018	6,257,300	6,497,718	13.70	474,286	**3.72%**
	TOTAL ACCOUNT 390.10	78,981,497			0%	78,981,497	32,351,806	46,629,691	18.27	2,552,906	**3.23%**
390.20	MISCELLANEOUS IMPROVEMENTS	7,098,844	R0.5	40	0%	7,098,844	5,293,645	1,805,199	19.20	94,021	**1.32%**
391.00	OFFICE FURNITURE - FURNITURE	478,529	SQ	20	0%	478,529	374,630	103,900	15.00	6,927	**1.45%**

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
391.20	OFFICE FURNITURE - OFFICE MACHINES	948	SQ	10	0%	948	972	-24			
391.25	OFFICE FURNITURE - DATA PROCESSING SMART METERS	6,855,160	SQ	5	0%	6,855,160	4,618,769	2,236,391	1.80	1,242,439	**18.12%**
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	4,712,204	SQ	5	0%	4,712,204	2,465,585	2,246,619	2.50	898,648	**19.07%**
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	623,578	L3	13	0%	623,578	450,260	173,317	2.50	69,327	**11.12%**
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	2,849,420	L2	30	0%	2,849,420	1,738,113	1,111,307	10.50	105,839	**3.71%**
392.50	TRANSPORTATION EQUIPMENT - OTHER	5,933,430	L3	10	0%	5,933,430	3,124,380	2,809,050	7.20	390,146	**6.58%**
393.00	STORES EQUIPMENT	583,403	SQ	25	0%	583,403	583,403	0			
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	18,533,885	SQ	25	0%	18,533,885	7,295,994	11,237,891	13.00	864,453	**4.66%**
395.00	LABORATORY EQUIPMENT	169,785	SQ	20	0%	169,785	169,785	0			
396.00	POWER OPERATED EQUIPMENT	5,158,780	SQ	35	0%	5,158,780	4,661,358	497,423	16.80	29,608	**0.57%**
397.00	COMMUNICATION EQUIPMENT	44,631,038	SQ	15	0%	44,631,038	13,197,975	31,433,062	8.60	3,655,007	**8.19%**
398.00	MISCELLANEOUS EQUIPMENT	72,841	SQ	20	0%	72,841	52,406	20,435	12.90	1,584	**2.17%**
	Total General Plant	176,704,299			0%	176,704,299	76,591,322	100,112,977	10.10	9,910,905	**5.61%**
	Total Plant Studied - Penelec	**3,639,434,152**			**0%**	**3,639,434,152**	**1,126,170,798**	**2,513,263,355**	**30.88**	**81,382,218**	**2.24%**
	PENNSYLVANIA POWER COMPANY										
	Intangible Plant										
303.00	SOFTWARE - OTHER	16,818,908	SQ	7	0%	16,818,908	10,749,218	6,069,690		1,342,614	
303.10	SMART METER SOFTWARE	6,957,286	SQ	7	0%	6,957,286	6,324,954	632,332		175,578	
303.70	SOFTWARE - CLOUD	3,934	SQ	5	0%	3,934	1,272	2,662		759	
	Total Intangible Plant	23,780,128			0%	23,780,128	17,075,443	6,704,685	4.41	1,518,951	**6.39%**
	Distribution Plant										
361.10	STRUCTURES AND IMPROVEMENTS	3,462,547	R4	70	0%	3,462,547	769,581	2,692,966	56.68	47,512	**1.37%**
361.11	STRUCTURES - SUBTRANS	790,187	R4	70	0%	790,187	584,325	205,862	31.14	6,611	**0.84%**
361.20	STRUCTURES - CLEARING AND GRADING	454,298	R4	70	0%	454,298	240,582	213,716	42.26	5,057	**1.11%**
361.21	STRUCTURES - CLEARING AND GRADING - SUBTRANS	195,216	R4	70	0%	195,216	132,800	62,416	35.29	1,769	**0.91%**
362.00	STATION EQUIPMENT	105,561,344	R1	52	0%	105,561,344	21,762,349	83,798,995	43.33	1,933,972	**1.83%**
362.10	STATION EQUIPMENT - SUBTRANS	8,536,992	R1	52	0%	8,536,992	4,962,268	3,574,724	32.49	110,025	**1.29%**
364.00	POLES, TOWERS AND FIXTURES	147,023,829	R1.5	65	0%	147,023,829	43,915,705	103,108,123	50.53	2,040,533	**1.39%**
364.10	TOWERS AND FIXTURES - SUBTRANS	7,576	R4	75	0%	7,576	7,524	52	10.30	5	**0.07%**
364.20	POLES AND FIXTURES - SUBTRANS	3,142,285	R1.5	65	0%	3,142,285	1,090,076	2,052,208	47.59	43,123	**1.37%**
365.00	OH CONDUCTORS AND DEVICES	174,773,789	R1	65	0%	174,773,789	26,256,876	148,516,914	54.92	2,704,241	**1.55%**
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	3,332,630	R1	65	0%	3,332,630	914,116	2,418,514	51.07	47,357	**1.42%**
365.10	OH CONDUCTORS - CLEARING AND GRADING	78,494,769	R1	64	0%	78,494,769	13,391,777	65,102,992	56.99	1,142,358	**1.46%**
366.00	UG CONDUIT	8,083,551	R2.5	70	0%	8,083,551	3,229,862	4,853,689	48.02	101,076	**1.25%**
366.10	UG CONDUIT - SUBTRANS	64,654	R2.5	70	0%	64,654	59,446	5,208	28.00	186	**0.29%**

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
367.00	UG CONDUCTORS AND DEVICES	91,532,113	R2.5	50	0%	91,532,113	28,057,502	63,474,611	35.94	1,766,127	**1.93%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	108,081	R2.5	50	0%	108,081	48,850	59,232	30.67	1,931	**1.79%**
368.00	LINE TRANSFORMERS	129,414,333	R1.5	43	0%	129,414,333	38,603,036	90,811,297	30.64	2,963,815	**2.29%**
369.00	SERVICES	46,965,791	R4	60	0%	46,965,791	23,524,271	23,441,520	38.19	613,813	**1.31%**
370.10	METERS - SMART GRID	49,038,184	S2	15	0%	49,038,184	18,420,404	30,617,780	8.39	3,649,318	**7.44%**
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	4,092,193	R2	33	0%	4,092,193	2,888,042	1,204,151	14.23	84,621	**2.07%**
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	3,725,718	R2	20	0%	3,725,718	1,422,119	2,303,599	11.03	208,848	**5.61%**
373.20	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	24,978	R2	20	0%	24,978	6,013	18,965	11.02	1,721	**6.89%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	4,515,162	R2	20	0%	4,515,162	1,024,891	3,490,271	15.68	222,594	**4.93%**
	Total Distribution Plant	863,340,220			0%	863,340,220	231,312,414	632,027,806	35.71	17,696,613	**2.05%**
	General Plant										
390.10	STRUCTURES AND IMPROVEMENTS	8,159,851	R2	55	0%	8,159,851	3,541,677	4,618,174	30.50	151,416	**1.86%**
390.20	STRUCTURES - CLEARING AND GRADING	41,241	R2	55	0%	41,241	12,486	28,755	34.00	846	**2.05%**
391.10	OFFICE FURNITURE AND EQUIPMENT	49,259	SQ	20	0%	49,259	12,655	36,605	7.20	5,084	**10.32%**
391.20	OFFICE FURNITURE - DATA PROCESSING EQUIP	807,053	SQ	5	0%	807,053	508,230	298,823	4.30	69,494	**8.61%**
391.25	OFFICE FURNITURE - PROCESSING EQUIP SMART GRID	1,985,481	SQ	5	0%	1,985,481	1,633,028	352,454	2.70	130,538	**6.57%**
392.00	TRANSPORTATION EQUIPMENT	1,434,453	L2	10	0%	1,434,453	819,443	615,010	6.60	93,183	**6.50%**
393.00	STORES EQUIPMENT	26,718	SQ	30	0%	26,718	26,239	479	2.50	192	**0.72%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	3,127,469	SQ	25	0%	3,127,469	801,529	2,325,940	16.70	139,278	**4.45%**
395.00	LABORATORY EQUIPMENT	21,540	SQ	20	0%	21,540	15,946	5,594	4.50	1,243	**5.77%**
396.00	POWER OPERATED EQUIPMENT	1,391,715	S2	20	0%	1,391,715	387,977	1,003,738	14.70	68,281	**4.91%**
397.00	COMMUNICATION EQUIPMENT	9,470,211	SQ	15	0%	9,470,211	2,928,858	6,541,353	7.60	860,704	**9.09%**
398.00	MISCELLANEOUS EQUIPMENT	7,595	SQ	20	0%	7,595	7,595	0			
	Total General Plant	26,522,586			0%	26,522,586	10,695,662	15,826,925	10.41	1,520,259	**5.73%**
	Total Plant Studied - Penn Power	**913,642,934**			**0%**	**913,642,934**	**259,083,519**	**654,559,415**	**31.57**	**20,735,823**	**2.27%**

WEST PENN POWER COMPANY

	Intangible Plant										
303.10	SOFTWARE - 7 YEAR LIFE	62,032,058	SQ	7	0%	62,032,058	37,200,625	24,831,432		8,380,264	
303.20	SOFTWARE - 10 YEAR LIFE	60,428,775	SQ	10	0%	60,428,775	56,561,955	3,866,820		542,876	
303.30	SOFTWARE - CLOUD	15,207	SQ	5	0%	15,207	5,580	9,627		2,749	
	Total Intangible Plant	122,476,040			0%	122,476,040	93,768,160	28,707,880	3.22	8,925,889	**7.29%**
	Distribution Plant										

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
360.20	LAND RIGHTS	10,877,053	R4	75	0%	10,877,053	4,910,753	5,966,301	38.46	155,130	**1.43%**
361.00	STRUCTURES AND IMPROVEMENTS	24,234,956	R3	70	0%	24,234,956	11,618,810	12,616,146	42.57	296,362	**1.22%**
362.10	STATION EQUIPMENT	390,774,682	R1.5	60	0%	390,774,682	168,707,810	222,066,872	41.83	5,308,794	**1.36%**
362.15	STATION EQUIPMENT - SUBTRANS	18,897,056	R1.5	60	0%	18,897,056	9,531,310	9,365,746	40.35	232,113	**1.23%**
362.40	STATION EQUIPMENT - SCADA	4,897,085	R2.5	35	0%	4,897,085	4,392,671	504,414	13.73	36,738	**0.75%**
364.00	POLES, TOWERS AND FIXTURES	417,086,552	R2	70	0%	417,086,552	132,659,393	284,427,159	54.32	5,236,141	**1.26%**
364.55	POLES AND FIXTURES - SUBTRANS	73,660,720	R2	70	0%	73,660,720	35,475,883	38,184,837	43.23	883,295	**1.20%**
365.10	OH CONDUCTORS AND DEVICES	515,295,123	R1	60	0%	515,295,123	84,100,667	431,194,455	49.55	8,702,209	**1.69%**
365.15	OH CONDUCTORS AND DEVICES - SUBTRANS	57,488,342	R1	60	0%	57,488,342	22,206,932	35,281,410	40.29	875,687	**1.52%**
365.20	OH CONDUCTORS - CLEARING AND DAMAGES	316,219,698	R4	75	0%	316,219,698	44,403,942	271,815,756	64.40	4,220,742	**1.33%**
365.25	OH CONDUCTORS - CLEARING - SUBTRANS	24,960,133	R4	75	0%	24,960,133	4,368,392	20,591,741	63.32	325,201	**1.30%**
366.00	UG CONDUIT	24,641,325	R3	65	0%	24,641,325	8,424,038	16,217,288	42.58	380,866	**1.55%**
366.50	UG CONDUIT - SUBTRANS	11,035	R3	65	0%	11,035	783	10,252	58.98	174	**1.58%**
367.00	UG CONDUCTORS AND DEVICES	225,822,089	R2.5	55	0%	225,822,089	59,801,527	166,020,562	42.97	3,863,639	**1.71%**
367.50	UG CONDUCTORS AND DEVICES - SUBTRANS	13,620,058	R2.5	55	0%	13,620,058	5,938,971	7,681,087	37.44	205,157	**1.51%**
368.00	LINE TRANSFORMERS	476,001,321	R1.5	48	0%	476,001,321	175,896,709	300,104,612	33.30	9,012,150	**1.89%**
369.00	SERVICES	138,445,714	R2.5	55	0%	138,445,714	61,219,185	77,226,529	36.11	2,138,647	**1.54%**
370.30	METERS - SMART GRID	195,829,928	S2	15	0%	195,829,928	57,042,622	138,787,306	9.99	13,892,623	**7.09%**
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	9,987,325	R1.5	32	0%	9,987,325	5,949,292	4,038,034	19.28	209,442	**2.10%**
372.00	LEASED PROPERTY	296,619	R1.5	30	0%	296,619	270,751	25,867	10.88	2,378	**0.80%**
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	24,221,713	L0	25	0%	24,221,713	4,898,971	19,322,741	17.58	1,099,132	**4.54%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	21,415,837	R2	20	0%	21,415,837	938,690	20,477,147	15.57	1,315,167	**6.14%**
	Total Distribution Plant	2,984,684,365			0%	2,984,684,365	902,758,102	2,081,926,263	35.65	58,391,786	**1.96%**
	General Plant										
389.20	LAND RIGHTS	293,153	R4	75	0%	293,153	139,016	154,137	38.60	3,993	**1.36%**
390.10	STRUCTURES AND IMPROVEMENTS										
	ARNOLD SERVICE CENTER	3,100,077	S0.5	55	0%	3,100,077	1,613,360	1,486,717	7.30	203,660	**6.57%**
	BOYCE SERVICE CENTER	2,167,493	S0.5	55	0%	2,167,493	658,183	1,509,309	18.30	82,476	**3.81%**
	BUTLER SERVICE CENTER	2,854,446	S0.5	55	0%	2,854,446	1,121,552	1,732,894	11.00	157,536	**5.52%**
	CHARLEROI SERVICE CENTER	4,892,376	S0.5	55	0%	4,892,376	2,993,072	1,899,304	12.60	150,738	**3.08%**
	CLARION SERVICE CENTER AND POLE YARD	1,754,808	S0.5	55	0%	1,754,808	502,494	1,252,314	19.10	65,566	**3.74%**
	CONNELLSVILLE CONFERENCE CENTER	2,806,195	S0.5	55	0%	2,806,195	1,379,599	1,426,596	18.00	79,255	**2.82%**
	CONNELLSVILLE HAZARDOUS MATERIAL	706,428	S0.5	55	0%	706,428	317,277	389,150	18.10	21,500	**3.04%**
	CONNELLSVILLE METER LAB AND STOREHOUSE	828,706	S0.5	55	0%	828,706	827,354	1,353	17.60	77	**0.01%**
	CONNELLSVILLE COVERED STORAGE AND OFFICE	10,236,714	S0.5	55	0%	10,236,714	2,381,577	7,855,137	17.60	446,315	**4.36%**
	CONNELLSVILLE QUONSET STOREHOUSE	193,295	S0.5	55	0%	193,295	193,295	0			
	CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	2,169,792	S0.5	55	0%	2,169,792	1,025,565	1,144,227	13.50	84,758	**3.91%**
	CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	527,203	S0.5	55	0%	527,203	527,203	0			
	CONNELLSVILLE GARAGE	4,104,512	S0.5	55	0%	4,104,512	1,601,061	2,503,451	18.90	132,458	**3.23%**
	CONNELLSVILLE WEST SIDE COMPLEX	2,128,076	S0.5	55	0%	2,128,076	1,706,043	422,033	12.60	33,495	**1.57%**

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	DUNBAR STORAGE FACILITY	2,682,456	S0.5	55	0%	2,682,456	1,428,765	1,253,691	9.70	129,246	**4.82%**
	GREENSBURG CORP CENTER A WING	2,651,022	S0.5	55	0%	2,651,022	1,633,737	1,017,285	17.70	57,474	**2.17%**
	GREENSBURG CORP CENTER B WING	24,295,755	S0.5	55	0%	24,295,755	10,423,115	13,872,639	18.20	762,233	**3.14%**
	GREENSBURG CORP CENTER C WING	7,498,890	S0.5	55	0%	7,498,890	3,124,731	4,374,158	17.90	244,366	**3.26%**
	GREENSBURG CORP CENTER MAIN BUILDING	34,597,548	S0.5	55	0%	34,597,548	13,273,850	21,323,698	18.70	1,140,305	**3.30%**
	GREENSBURG CORP CENTER PARKING GARAGE	2,456,837	S0.5	55	0%	2,456,837	2,137,162	319,675	18.50	17,280	**0.70%**
	JEANETTE SERVICE CENTER	6,258,973	S0.5	55	0%	6,258,973	4,167,492	2,091,481	20.70	101,038	**1.61%**
	JEANETTE SERVICE CENTER GARAGE	921,620	S0.5	55	0%	921,620	450,219	471,401	18.00	26,189	**2.84%**
	JEFFERSON SERVICE CENTER	2,287,324	S0.5	55	0%	2,287,324	1,600,289	687,036	7.20	95,422	**4.17%**
	KITTANNING SERVICE CENTER	3,307,079	S0.5	55	0%	3,307,079	2,174,044	1,133,035	19.80	57,224	**1.73%**
	KITTANNING SERVICE CENTER GARAGE	745,933	S0.5	55	0%	745,933	452,307	293,627	17.30	16,973	**2.28%**
	LATROBE SERVICE CENTER	2,513,146	S0.5	55	0%	2,513,146	1,502,186	1,010,960	9.10	111,094	**4.42%**
	MCCONNELLSBURG SERVICE CENTER	1,472,017	S0.5	55	0%	1,472,017	413,891	1,058,126	17.90	59,113	**4.02%**
	PLEASANT VALLEY SERVICE CENTER	3,263,966	S0.5	55	0%	3,263,966	1,816,793	1,447,173	10.00	144,717	**4.43%**
	ST. MARYS SERVICE CENTER	4,339,296	S0.5	55	0%	4,339,296	1,707,709	2,631,587	20.70	127,130	**2.93%**
	ST. MARYS SERVICE CENTER GARAGE	1,785,129	S0.5	55	0%	1,785,129	567,279	1,217,850	19.80	61,508	**3.45%**
	STATE COLLEGE SERVICE CENTER GARAGE	1,961,300	S0.5	55	0%	1,961,300	888,019	1,073,281	18.80	57,089	**2.91%**
	WASHINGTON SERVICE CENTER	5,120,543	S0.5	55	0%	5,120,543	1,371,797	3,748,746	9.20	407,472	**7.96%**
	WAYNESBORO SERVICE CENTER	3,395,224	S0.5	55	0%	3,395,224	1,284,560	2,110,664	20.00	105,533	**3.11%**
	WAYNESBORO SERVICE CENTER GARAGE	962,920	S0.5	55	0%	962,920	440,132	522,787	18.60	28,107	**2.92%**
	MINOR STRUCTURES	4,827,558	S0.5	55	0%	4,827,558	937,403	3,890,155	14.30	272,039	**5.64%**
	TOTAL ACCOUNT 390.10	155,814,656			0%	155,814,656	68,643,116	87,171,540	15.91	5,479,385	**3.52%**
391.10	OFFICE FURNITURE - FURNITURE	3,306,494	SQ	16	0%	3,306,494	2,128,772	1,177,721	6.40	184,019	**5.57%**
391.20	OFFICE FURNITURE - INFORMATION SYSTEMS	7,378,813	SQ	7	0%	7,378,813	2,616,146	4,762,667	4.20	1,133,968	**15.37%**
391.30	OFFICE FURNITURE - DATA HANDLING EQUIPMENT	21,151	SQ	16	0%	21,151	21,150	0			
391.50	OFFICE FURNITURE - SMART METERS HARDWARE	4,026,192	SQ	5	0%	4,026,192	3,602,570	423,622	2.50	169,449	**4.21%**
392.10	TRANSPORTATION EQUIP - AUTOS	8,058,657	S2	8	0%	8,058,657	3,060,147	4,998,510	4.30	1,162,444	**14.42%**
392.20	TRANSPORTATION EQUIP - LIGHT TRUCKS	1,386,702	S1	12	0%	1,386,702	784,284	602,418	3.60	167,338	**12.07%**
392.30	TRANSPORTATION EQUIP - MEDIUM AND HEAVY TRUCKS	805,638	L3	12	0%	805,638	347,912	457,726	3.50	130,779	**16.23%**
392.40	TRANSPORTATION EQUIP - TRAILERS	438,040	S1	24	0%	438,040	315,190	122,850	13.00	9,450	**2.16%**
392.60	TRANSPORTATION EQUIP - ALL TERRAIN VEHICLES	200,859	S2.5	11	0%	200,859	162,652	38,207	2.00	19,104	**9.51%**
393.00	STORES EQUIPMENT	311,863	SQ	25	0%	311,863	252,898	58,965	5.10	11,562	**3.71%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,368,728	SQ	15	0%	19,368,728	9,534,233	9,834,495	8.30	1,184,879	**6.12%**
395.00	LABORATORY EQUIPMENT	451,987	SQ	23	0%	451,987	370,687	81,300	6.50	12,508	**2.77%**
396.00	POWER OPERATED EQUIPMENT	265,470	S0.5	20	0%	265,470	220,687	44,783	9.30	4,815	**1.81%**
397.00	COMMUNICATION EQUIPMENT	42,855,543	SQ	12	0%	42,855,543	19,059,981	23,795,563	7.00	3,399,366	**7.93%**
398.00	MISCELLANEOUS EQUIPMENT	275,542	SQ	14	0%	275,542	275,543	0			
	Total General Plant	245,259,489			0%	245,259,489	111,534,985	133,724,504	10.23	13,073,059	**5.33%**
	Total Plant Studied - WPP	**3,352,419,894**			**0%**	**3,352,419,894**	**1,108,061,247**	**2,244,358,647**	**27.92**	**80,390,734**	**2.40%**

Depreciation Rate Development - 2023

Account No.	Description	[1] Plant 12/31/2023	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	TOTAL PLANT STUDIED	**11,178,203,623**			**0%**	**11,178,203,623**	**3,494,407,941**	**7,683,795,682**	**30.37**	**253,012,777**	**2.26%**

[1] From Company depreciation study
[2] Average life and Iowa curve shape selected through statistical analysis and professional judgment
[3] Net salvage rate selected through statistical analysis and professional judgment
[4] = [1]*(1-[3])
[5] From depreciation study
[6] = [4] - [5]
[7] Composite remaining life based on Iowa cuve in [2]; see remaining life exhibit for detailed calculations
[8] = [6] / [7]; some unadjusted figures hard coded to match company's proposed figures
[9] = [8] / [1]; some unadjusted figures hard coded to match company's proposed figures

Detailed Rate Comparison - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
	METROPOLITAN EDISON COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	66,210,701		4,800,590	0.00%	4,800,590	0.00%	0
303.10	SOFTWARE - CLOUD	425,296		84,982	0.00%	84,982	0.00%	0
303.30	SOFTWARE - PROJECT ENTERPRISE	621,985		0	0.00%	0	0.00%	0
303.60	SOFTWARE - PROJECT EVOLUTION	8,047,879		0	0.00%	0	0.00%	0
303.90	SMART METER SOFTWARE	23,910,691		116,252	0.00%	116,252	0.00%	0
	Total Intangible Plant	99,216,553	5.04%	5,001,824	5.04%	5,001,824	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	28,932,719	0.97%	279,801	0.95%	274,945	-0.02%	-4,856
361.00	STRUCTURES AND IMPROVEMENTS	17,763,919	1.37%	243,877	1.29%	229,694	-0.08%	-14,183
361.10	STRUCTURES - SUBTRANS	339,223	1.55%	5,272	1.35%	4,584	-0.20%	-688
361.20	STRUCTURES - SUBTRANS (ROADS AND TRAILS)	11,908	0.75%	89	0.83%	99	0.08%	10
362.00	STATION EQUIPMENT	329,710,173	1.94%	6,404,491	1.57%	5,184,058	-0.37%	-1,220,433
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,919,660	2.19%	260,852	1.68%	199,873	-0.51%	-60,979
364.00	POLES, TOWERS AND FIXTURES	572,974,394	1.94%	11,129,747	1.45%	8,335,165	-0.49%	-2,794,582
364.10	POLES, TOWERS AND FIXTURES - SUBTRANS	36,126	0.58%	208	0.73%	264	0.15%	56
364.11	POLES, TOWERS AND FIXTURES - SUBTRANS	3,234,422	1.93%	62,465	1.39%	44,847	-0.54%	-17,618
365.00	OH CONDUCTORS AND DEVICES	679,817,827	2.88%	19,554,289	1.62%	11,022,405	-1.26%	-8,531,884
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	1,345,785	1.93%	26,024	1.35%	18,122	-0.58%	-7,902
365.10	OH CONDUCTORS - CLEARING AND ROW	229,365,878	1.50%	3,440,794	1.41%	3,224,673	-0.09%	-216,121
365.11	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	429,030	0.26%	1,119	0.41%	1,748	0.15%	629
366.00	UG CONDUIT	35,459,380	1.64%	580,021	1.35%	479,405	-0.29%	-100,616
367.00	UG CONDUCTORS AND DEVICES	332,492,307	2.23%	7,429,323	1.83%	6,071,440	-0.40%	-1,357,883
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,536,544	2.33%	35,872	1.86%	28,633	-0.47%	-7,239
368.00	LINE TRANSFORMERS	507,003,843	2.63%	13,350,018	2.10%	10,663,136	-0.53%	-2,686,882
369.00	OVERHEAD SERVICES	96,284,019	2.85%	2,744,617	2.15%	2,068,078	-0.70%	-676,539
369.10	UNDERGROUND SERVICES	104,052,556	1.32%	1,370,553	1.21%	1,254,889	-0.11%	-115,664
370.10	METERS - SMART GRID	145,648,562	8.42%	12,261,848	7.13%	10,390,183	-1.29%	-1,871,665
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	4,173,138	1.93%	80,687	1.62%	67,448	-0.31%	-13,239

Detailed Rate Comparison - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
371.21	INSTALLATIONS - METER SOCKET DEVICES	412,208	1.15%	4,739	1.06%	4,363	-0.09%	-376
371.23	INSTALLATIONS - SURGE SUPPRESSION	276,708	0.00%	0	0.00%	0	0.00%	0
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	16,309,455	4.91%	800,760	3.53%	575,978	-1.38%	-224,782
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	3,808,436	7.30%	278,173	5.14%	195,916	-2.16%	-82,257
	Total Distribution Plant	3,123,338,218	2.57%	80,345,639	1.93%	60,339,946	-0.64%	-20,005,693
	General Plant							
389.20	TRANSPORTATION EQUIPMENT	18,078	0.38%	69	0.38%	69	0.00%	0
390.10	STRUCTURES AND IMPROVEMENTS							
	MISCELLANEOUS IMPROVEMENTS - MINOR	39,925,052	3.27%	1,303,651	3.27%	1,303,629	0.00%	-22
	CORPORATE HEADQUARTERS - READING	63,279,337	3.01%	1,904,258	3.00%	1,901,023	-0.01%	-3,235
	LEBANON SERVICE CENTER	7,363,967	2.87%	211,011	2.86%	210,842	-0.01%	-169
	EASTON SERVICE CENTER	7,191,589	5.00%	359,915	5.03%	361,562	0.03%	1,647
	YORK SERVICE CENTER	12,697,226	5.12%	649,594	5.13%	651,960	0.01%	2,366
	TOTAL ACCOUNT 390.10	130,457,171	3.39%	4,428,429	3.39%	4,429,017	0.00%	588
390.20	STRUCTURES - CLEARING AND GRADING							
	MISCELLANEOUS IMPROVEMENTS - MINOR	4,198,929	1.63%	68,254	1.63%	68,336	0.00%	82
	CORPORATE HEADQUARTERS - READING	5,082,077	2.24%	113,648	2.23%	113,473	-0.01%	-175
	LEBANON SERVICE CENTER	997,792	1.32%	13,132	1.32%	13,145	0.00%	13
	EASTON SERVICE CENTER	1,331,356	2.20%	29,257	2.19%	29,132	-0.01%	-125
	YORK SERVICE CENTER	1,783,426	1.72%	30,753	1.72%	30,665	0.00%	-88
	TOTAL ACCOUNT 390.20	13,393,580	1.90%	255,044	1.90%	254,750	0.00%	-294
391.00	OFFICE FURNITURE - FURNITURE	2,541,588	3.11%	79,022	3.09%	78,573	-0.02%	-449
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	2,921,741	10.33%	301,822	10.40%	303,754	0.07%	1,932
391.50	OFFICE FURNITURE - DATA PROCESSING SMART METERS	3,480,585	16.25%	565,647	16.43%	571,842	0.18%	6,195
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	4,905,873	8.07%	396,102	8.02%	393,655	-0.05%	-2,447
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	668,412	1.12%	7,502	1.13%	7,532	0.01%	30
392.50	TRANSPORTATION EQUIPMENT - VAN TRAILERS	87,237	0.40%	345	0.40%	349	0.00%	4
393.00	STORES EQUIPMENT	55,534	2.52%	1,400	2.53%	1,406	0.01%	6
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	13,123,320	3.95%	517,730	3.94%	516,892	-0.01%	-838

Detailed Rate Comparison - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
395.00	LABORATORY EQUIPMENT	85,698	0.00%	0	0.00%	0	0.00%	0
396.00	POWER OPERATED EQUIPMENT	1,248,544	2.65%	33,067	2.65%	33,112	0.00%	45
397.00	COMMUNICATION EQUIPMENT	27,133,863	4.53%	1,230,345	4.54%	1,231,853	0.01%	1,508
398.00	MISCELLANEOUS EQUIPMENT	66,807	2.11%	1,407	2.11%	1,407	0.00%	0
	Total General Plant	200,188,031	3.91%	7,817,931	3.91%	7,824,210	0.00%	6,279
	Total Plant Studied - MetEd	**3,422,742,802**	**2.72%**	**93,165,394**	**2.14%**	**73,165,980**	**-0.58%**	**-19,999,414**
	PENNSYLVANIA ELECTRIC COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	70,978,120		6,227,009		6,227,009	0.00%	0
303.30	SOFTWARE - PROJECT EVOLUTION	9,079,604		0		0	0.00%	0
303.60	SMART METER SOFTWARE	25,257,809		14,521		14,521	0.00%	0
303.70	SOFTWARE - CLOUD	429,237		86,750		86,750	0.00%	0
	Total Intangible Plant	105,744,770	5.98%	6,328,280	5.98%	6,328,280	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	15,602,749	0.84%	131,115	0.89%	138,143	0.05%	7,028
361.00	STRUCTURES AND IMPROVEMENTS	18,435,042	1.24%	227,877	1.23%	227,372	-0.01%	-505
361.10	STRUCTURES - SUBTRANS	427,196	1.06%	4,547	0.90%	3,832	-0.16%	-715
362.00	STATION EQUIPMENT	401,242,855	1.99%	7,987,430	1.49%	5,974,632	-0.50%	-2,012,798
362.10	STATION EQUIPMENT - SUBTRANS	11,560,420	2.51%	289,953	1.81%	209,246	-0.70%	-80,707
364.00	POLES, TOWERS AND FIXTURES	710,619,681	1.67%	11,896,202	1.49%	10,552,834	-0.18%	-1,343,368
364.20	POLES AND FIXTURES - SUBTRANSMISSION	535,896	2.41%	12,929	2.05%	10,959	-0.36%	-1,970
365.00	OH CONDUCTORS AND DEVICES	952,043,716	2.48%	23,569,386	1.62%	15,453,703	-0.86%	-8,115,683
365.10	OH CONDUCTORS - CLEARING AND ROW	283,177,860	1.38%	3,920,324	1.30%	3,689,843	-0.08%	-230,481
365.20	OVERHEAD CONDUCTORS - SUBTRANS	750,194	2.53%	19,011	1.62%	12,176	-0.91%	-6,835
365.30	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	37,157	1.02%	378	0.95%	355	-0.07%	-23

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366.00	UG CONDUIT	46,775,767	1.60%	749,945	1.36%	637,522	-0.24%	-112,423
367.00	UG CONDUCTORS AND DEVICES	243,400,049	2.51%	6,114,942	2.15%	5,239,618	-0.36%	-875,324
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,286,184	2.76%	35,492	2.24%	28,844	-0.52%	-6,648
368.00	LINE TRANSFORMERS	465,080,920	2.62%	12,192,707	2.00%	9,300,673	-0.62%	-2,892,034
369.00	OVERHEAD SERVICES	91,479,578	2.08%	1,903,082	1.54%	1,407,819	-0.54%	-495,263
369.10	UNDERGROUND SERVICES	48,077,322	1.01%	485,429	0.87%	416,671	-0.14%	-68,758
370.10	METERS - SMART GRID	146,035,788	8.53%	12,454,873	7.22%	10,549,605	-1.31%	-1,905,268
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	28,306,985	1.49%	420,952	1.45%	410,176	-0.04%	-10,776
371.21	INSTALLATIONS - METER SOCKET DEVICES	223,738	1.32%	2,957	1.22%	2,722	-0.10%	-235
371.23	INSTALLATIONS - SURGE SUPPRESSION	147,697	0.00%	0	0.00%	0	0.00%	0
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	196,313	0.07%	137	0.13%	256	0.06%	119
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	37,041,361	8.25%	3,056,502	5.96%	2,206,962	-2.29%	-849,540
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	10,035,760	6.42%	644,478	4.45%	446,539	-1.97%	-197,939
	Total Distribution Plant	3,512,520,229	2.45%	86,120,648	1.91%	66,920,503	-0.55%	-19,200,145
	General Plant							
389.20	LAND RIGHTS	20,957	0.00%	0	0.00%	0	0.00%	0
390.10	STRUCTURES AND IMPROVEMENTS							
	MISCELLANEOUS IMPROVEMENTS - MINOR	46,120,484	2.86%	1,318,255	2.86%	1,317,118	0.00%	-1,137
	RICHLAND OPERATING CENTER	9,970,307	3.42%	341,025	3.42%	340,622	0.00%	-403
	ERIE OPERATING CENTER	18,088,751	4.05%	733,237	4.07%	735,736	0.02%	2,499
	ALTOONA OPERATING CENTER	12,755,018	3.73%	475,628	3.72%	475,034	-0.01%	-594
	TOTAL ACCOUNT 390.10	86,934,560	3.30%	2,868,145	3.30%	2,868,510	0.00%	365
390.20	MISCELLANEOUS IMPROVEMENTS	7,098,844	1.27%	90,243	1.27%	90,067	0.00%	-176
391.00	OFFICE FURNITURE - FURNITURE	344,061	2.06%	7,076	2.06%	7,095	0.00%	19
391.25	OFFICE FURNITURE - DATA PROCESSING SMART METERS	6,780,082	19.16%	1,298,917	19.41%	1,316,062	0.25%	17,145
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	2,728,437	24.48%	668,017	24.30%	662,897	-0.18%	-5,120
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	623,578	5.46%	34,073	5.42%	33,783	-0.04%	-290
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	2,833,893	3.45%	97,868	3.44%	97,604	-0.01%	-264
392.50	TRANSPORTATION EQUIPMENT - OTHER	6,844,505	7.53%	515,413	7.50%	513,066	-0.03%	-2,347
393.00	STORES EQUIPMENT	40,196	0.00%	0	0.00%	0	0.00%	0

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394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,200,665	4.73%	907,616	4.73%	907,943	0.00%	327
395.00	LABORATORY EQUIPMENT	111,815	0.00%	0	0.00%	0	0.00%	0
396.00	POWER OPERATED EQUIPMENT	5,158,780	0.55%	28,300	0.55%	28,352	0.00%	52
397.00	COMMUNICATION EQUIPMENT	47,113,172	8.02%	3,777,454	7.98%	3,759,089	-0.04%	-18,365
398.00	MISCELLANEOUS EQUIPMENT	72,841	2.18%	1,591	2.19%	1,597	0.01%	6
	Total General Plant	185,906,385	5.54%	10,294,713	5.53%	10,286,064	0.00%	-8,649
	Total Plant Studied - Penelec	**3,804,171,384**	**2.70%**	**102,743,641**	**2.20%**	**83,534,847**	**-0.50%**	**-19,208,794**
	PENNSYLVANIA POWER COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	16,674,131		1,322,389		1,322,389	0.00%	0
303.10	SMART METER SOFTWARE	7,170,029		101,121		101,121	0.00%	0
303.70	SOFTWARE - CLOUD	124,316		24,840		24,840	0.00%	0
	Total Intangible Plant	23,968,476	6.04%	1,448,350	6.04%	1,448,350	0.00%	0
	Distribution Plant							
361.10	STRUCTURES AND IMPROVEMENTS	3,499,962	1.42%	49,641	1.37%	48,011	-0.05%	-1,630
361.11	STRUCTURES - SUBTRANS	790,187	0.66%	5,247	0.84%	6,608	0.18%	1,361
361.20	STRUCTURES - CLEARING AND GRADING	454,298	1.18%	5,340	1.11%	5,043	-0.07%	-297
361.21	STRUCTURES - CLEARING AND GRADING - SUBTRANS	195,216	0.97%	1,901	0.90%	1,760	-0.07%	-141
362.00	STATION EQUIPMENT	110,539,589	2.64%	2,919,267	1.82%	2,007,672	-0.82%	-911,595
362.10	STATION EQUIPMENT - SUBTRANS	8,596,050	1.44%	123,956	1.28%	109,627	-0.16%	-14,329
364.00	POLES, TOWERS AND FIXTURES	147,023,829	1.74%	2,564,360	1.35%	1,989,447	-0.39%	-574,913
364.10	TOWERS AND FIXTURES - SUBTRANS	7,576	0.07%	5	0.06%	5	-0.01%	0
364.20	POLES AND FIXTURES - SUBTRANS	8,799,357	2.66%	233,721	1.58%	139,151	-1.08%	-94,570
365.00	OH CONDUCTORS AND DEVICES	185,829,135	2.26%	4,194,217	1.53%	2,838,810	-0.73%	-1,355,407
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	3,332,630	1.90%	63,415	1.40%	46,568	-0.50%	-16,847

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365.10	OH CONDUCTORS - CLEARING AND GRADING	78,494,769	2.04%	1,602,527	1.44%	1,127,374	-0.60%	-475,153
366.00	UG CONDUIT	8,152,468	1.43%	116,834	1.25%	101,574	-0.18%	-15,260
366.10	UG CONDUIT - SUBTRANS	64,654	0.31%	203	0.28%	183	-0.03%	-20
367.00	UG CONDUCTORS AND DEVICES	96,353,635	2.28%	2,195,131	1.92%	1,854,465	-0.36%	-340,666
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	108,081	1.90%	2,054	1.77%	1,909	-0.13%	-145
368.00	LINE TRANSFORMERS	135,645,971	2.93%	3,977,001	2.25%	3,056,691	-0.68%	-920,310
369.00	SERVICES	47,931,906	1.26%	601,746	1.32%	630,977	0.06%	29,231
370.10	METERS - SMART GRID	51,150,649	8.13%	4,156,750	6.95%	3,554,834	-1.18%	-601,916
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	4,092,193	1.89%	77,144	1.99%	81,231	0.10%	4,087
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	3,813,840	6.92%	264,009	5.16%	196,744	-1.76%	-67,265
373.20	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	24,978	7.74%	1,934	6.56%	1,639	-1.18%	-295
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	4,920,560	5.96%	293,442	4.80%	236,260	-1.16%	-57,182
	Total Distribution Plant	899,821,533	2.61%	23,449,845	2.00%	18,036,583	-0.60%	-5,413,262
	General Plant							
390.10	STRUCTURES AND IMPROVEMENTS	8,632,924	1.84%	158,495	1.84%	158,533	0.00%	38
390.20	STRUCTURES - CLEARING AND GRADING	41,241	2.02%	833	2.02%	833	0.00%	0
391.10	OFFICE FURNITURE AND EQUIPMENT	40,139	5.84%	2,344	5.83%	2,341	-0.01%	-3
391.20	OFFICE FURNITURE - DATA PROCESSING EQUIP	706,178	10.57%	74,664	10.66%	75,258	0.09%	594
391.25	OFFICE FURNITURE - PROCESSING EQUIP SMART GRID	1,965,276	13.64%	268,141	13.60%	267,366	-0.04%	-775
392.00	TRANSPORTATION EQUIPMENT	1,559,976	7.13%	111,207	7.08%	110,475	-0.05%	-732
393.00	STORES EQUIPMENT	26,718	0.71%	191	0.72%	192	0.01%	1
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	3,681,862	4.17%	153,408	4.16%	153,063	-0.01%	-345
395.00	LABORATORY EQUIPMENT	21,540	5.77%	1,243	5.77%	1,243	0.00%	0
396.00	POWER OPERATED EQUIPMENT	1,391,715	4.83%	67,288	4.84%	67,308	0.01%	20
397.00	COMMUNICATION EQUIPMENT	9,552,324	9.46%	903,941	9.47%	904,979	0.01%	1,038
398.00	MISCELLANEOUS EQUIPMENT	7,595	0.00%	0	0.00%	0	0.00%	0
	Total General Plant	27,627,487	6.30%	1,741,755	6.30%	1,741,589	0.00%	-166
	Total Plant Studied - Penn Power	**951,417,497**	**2.80%**	**26,639,950**	**2.23%**	**21,226,521**	**-0.57%**	**-5,413,429**

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	WEST PENN POWER COMPANY							
	Intangible Plant							
303.10	SOFTWARE - 7 YEAR LIFE	62,559,720		8,533,456		8,533,456	0.00%	0
303.20	SOFTWARE - 10 YEAR LIFE	60,361,885		58,524		58,524	0.00%	0
303.30	SOFTWARE - CLOUD	434,948		86,735		86,735	0.00%	0
	Total Intangible Plant	123,356,554	7.04%	8,678,715	7.04%	8,678,715	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	10,877,053	1.69%	183,916	1.41%	153,445	-0.28%	-30,471
361.00	STRUCTURES AND IMPROVEMENTS	24,234,956	1.32%	319,051	1.23%	297,016	-0.09%	-22,035
362.10	STATION EQUIPMENT	411,121,234	1.72%	7,051,329	1.38%	5,655,530	-0.34%	-1,395,799
362.15	STATION EQUIPMENT - SUBTRANS	18,897,056	1.47%	277,387	1.21%	229,177	-0.26%	-48,210
362.40	STATION EQUIPMENT - SCADA	4,897,085	0.60%	29,267	0.74%	36,225	0.14%	6,958
364.00	POLES, TOWERS AND FIXTURES	454,536,867	1.62%	7,350,788	1.29%	5,861,007	-0.33%	-1,489,781
364.55	POLES AND FIXTURES - SUBTRANS	73,660,720	1.34%	983,992	1.19%	874,895	-0.15%	-109,097
365.10	OH CONDUCTORS AND DEVICES	548,769,709	2.46%	13,487,030	1.66%	9,126,553	-0.80%	-4,360,477
365.15	OH CONDUCTORS AND DEVICES - SUBTRANS	57,488,342	1.93%	1,107,054	1.50%	860,606	-0.43%	-246,448
365.20	OH CONDUCTORS - CLEARING AND DAMAGES	321,019,156	1.43%	4,601,547	1.33%	4,279,484	-0.10%	-322,063
365.25	OH CONDUCTORS - CLEARING - SUBTRANS	24,960,133	1.38%	345,235	1.30%	324,788	-0.08%	-20,447
366.00	UG CONDUIT	24,641,325	1.74%	429,783	1.53%	378,202	-0.21%	-51,581
366.50	UG CONDUIT - SUBTRANS	11,035	1.81%	200	1.57%	173	-0.24%	-27
367.00	UG CONDUCTORS AND DEVICES	238,212,571	2.04%	4,861,813	1.71%	4,081,390	-0.33%	-780,423
367.50	UG CONDUCTORS AND DEVICES - SUBTRANS	13,620,058	1.72%	234,070	1.49%	203,391	-0.23%	-30,679
368.00	LINE TRANSFORMERS	496,413,454	2.38%	11,791,939	1.88%	9,314,010	-0.50%	-2,477,929
369.00	SERVICES	143,221,031	1.73%	2,480,658	1.56%	2,234,946	-0.17%	-245,712
370.30	METERS - SMART GRID	205,174,341	7.92%	16,244,568	6.74%	13,830,290	-1.18%	-2,414,278
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	9,987,325	2.18%	217,256	2.03%	202,438	-0.15%	-14,818
372.00	LEASED PROPERTY	296,619	0.85%	2,508	0.75%	2,237	-0.10%	-271
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	25,593,483	6.25%	1,599,659	4.22%	1,080,722	-2.03%	-518,937
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	23,688,085	7.33%	1,735,994	5.84%	1,384,443	-1.49%	-351,551

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	Total Distribution Plant	3,131,321,638	2.41%	75,335,044	1.93%	60,410,968	-0.48%	-14,924,076
	General Plant							
389.20	LAND RIGHTS	293,153	1.36%	3,976	1.35%	3,972	-0.01%	-4
390.10	STRUCTURES AND IMPROVEMENTS							
	ARNOLD SERVICE CENTER	3,558,667	7.88%	280,553	7.84%	279,138	-0.04%	-1,415
	BOYCE SERVICE CENTER	2,167,493	3.73%	80,889	3.74%	81,076	0.01%	187
	BUTLER SERVICE CENTER	3,006,897	5.75%	172,760	5.74%	172,652	-0.01%	-108
	CHARLEROI SERVICE CENTER	4,892,376	3.05%	149,100	3.05%	149,455	0.00%	355
	CLARION SERVICE CENTER AND POLE YARD	1,754,808	3.69%	64,768	3.70%	64,846	0.01%	78
	CONNELLSVILLE CONFERENCE CENTER	2,806,195	2.79%	78,247	2.79%	78,341	0.00%	94
	CONNELLSVILLE HAZARDOUS MATERIAL	706,428	2.97%	20,952	2.97%	21,010	0.00%	58
	CONNELLSVILLE METER LAB AND STOREHOUSE	828,706	0.01%	76	0.01%	76	0.00%	0
	CONNELLSVILLE COVERED STORAGE AND OFFICE	12,052,051	4.62%	557,041	4.63%	557,500	0.01%	459
	CONNELLSVILLE QUONSET STOREHOUSE	193,295	0.00%	0	0.00%	0	0.00%	0
	CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	2,169,792	3.86%	83,769	3.88%	84,096	0.02%	327
	CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	527,203	0.00%	0	0.00%	0	0.00%	0
	CONNELLSVILLE GARAGE	4,104,512	3.17%	130,063	3.17%	130,268	0.00%	205
	CONNELLSVILLE WEST SIDE COMPLEX	2,128,076	1.56%	33,236	1.56%	33,197	0.00%	-39
	DUNBAR STORAGE FACILITY	2,682,456	4.74%	127,088	4.76%	127,742	0.02%	654
	JEANETTE SERVICE CENTER	8,127,361	2.46%	200,143	2.47%	200,365	0.01%	222
	JEANETTE SERVICE CENTER GARAGE	921,620	2.77%	25,512	2.76%	25,442	-0.01%	-70
	JEFFERSON SERVICE CENTER	2,287,324	4.11%	94,117	4.11%	93,950	0.00%	-167
	KITTANNING SERVICE CENTER	3,869,062	2.30%	89,174	2.31%	89,339	0.01%	165
	KITTANNING SERVICE CENTER GARAGE	745,933	2.21%	16,450	2.21%	16,470	0.00%	20
	LATROBE SERVICE CENTER	4,805,647	8.64%	415,166	8.63%	414,519	-0.01%	-647
	MCCONNELLSBURG SERVICE CENTER	1,472,017	3.95%	58,208	3.95%	58,087	0.00%	-121
	PLEASANT VALLEY SERVICE CENTER	3,263,966	4.38%	143,001	4.39%	143,177	0.01%	176
	ST. MARYS SERVICE CENTER	4,339,296	2.90%	125,644	2.90%	125,852	0.00%	208
	ST. MARYS SERVICE CENTER GARAGE	1,785,129	3.37%	60,160	3.37%	60,231	0.00%	71
	STATE COLLEGE SERVICE CENTER GARAGE	1,961,300	2.86%	56,049	2.86%	56,133	0.00%	84
	WASHINGTON SERVICE CENTER	12,628,099	10.95%	1,382,928	11.00%	1,389,466	0.05%	6,538

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	WAYNESBORO SERVICE CENTER	3,395,224	3.07%	104,091	3.06%	103,890	-0.01%	-201
	WAYNESBORO SERVICE CENTER GARAGE	962,920	2.88%	27,710	2.87%	27,635	-0.01%	-75
	MINOR STRUCTURES	6,992,527	3.87%	270,501	3.87%	270,533	0.00%	32
	TOTAL ACCOUNT 390.10	101,136,380	4.79%	4,847,396	4.80%	4,854,484	0.01%	7,088
391.10	OFFICE FURNITURE - FURNITURE	3,250,487	5.69%	184,839	5.66%	184,097	-0.03%	-742
391.20	OFFICE FURNITURE - INFORMATION SYSTEMS	7,821,534	15.02%	1,174,620	15.13%	1,183,556	0.11%	8,936
391.30	OFFICE FURNITURE - DATA HANDLING EQUIPMENT	21,151	0.00%	0	0.00%	0	0.00%	0
391.50	OFFICE FURNITURE - SMART METERS HARDWARE	5,526,724	18.31%	1,011,896	18.57%	1,026,115	0.26%	14,219
392.10	TRANSPORTATION EQUIP - AUTOS	8,058,657	12.87%	1,037,123	12.89%	1,038,403	0.02%	1,280
392.20	TRANSPORTATION EQUIP - LIGHT TRUCKS	1,386,702	9.41%	130,510	9.48%	131,495	0.07%	985
392.30	TRANSPORTATION EQUIP - MEDIUM AND HEAVY TRUCKS	805,638	13.53%	109,002	13.51%	108,835	-0.02%	-167
392.40	TRANSPORTATION EQUIP - TRAILERS	438,040	2.07%	9,055	2.07%	9,071	0.00%	16
392.60	TRANSPORTATION EQUIP - ALL TERRAIN VEHICLES	200,859	4.88%	9,794	4.76%	9,553	-0.12%	-241
393.00	STORES EQUIPMENT	311,863	3.11%	9,710	3.11%	9,691	0.00%	-19
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,645,759	6.73%	1,322,979	6.72%	1,320,249	-0.01%	-2,730
395.00	LABORATORY EQUIPMENT	384,080	3.27%	12,544	3.24%	12,450	-0.03%	-94
396.00	POWER OPERATED EQUIPMENT	265,470	1.67%	4,431	1.67%	4,439	0.00%	8
397.00	COMMUNICATION EQUIPMENT	39,162,502	8.85%	3,464,461	8.81%	3,451,002	-0.04%	-13,459
398.00	MISCELLANEOUS EQUIPMENT	223,983	0.00%	0	0.00%	0	0.00%	0
	Total General Plant	188,932,983	7.06%	13,332,336	7.06%	13,347,414	0.01%	15,078
	Total Plant Studied - WPP	**3,443,611,175**	**2.83%**	**97,346,095**	**2.39%**	**82,437,097**	**-0.43%**	**-14,908,998**
	TOTAL PLANT STUDIED	**11,621,942,858**	**2.75%**	**319,895,080**	**2.24%**	**260,364,446**	**-0.51%**	**-59,530,634**

[1], [2] From Company depreciation study

[3] From depreciation rate development exhibit

[4] = [3] - [2]

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
					METROPOLITAN EDISON COMPANY						
	Intangible Plant										
303.00	SOFTWARE - OTHER	66,210,701	SQ	7	0%	66,210,701	45,896,661	20,314,040		4,800,590	
303.10	SOFTWARE - CLOUD	425,296	SQ	5	0%	425,296	47,721	377,575		84,982	
303.30	SOFTWARE - PROJECT ENTERPRISE	621,985	SQ	7	0%	621,985	621,985	0		0	
303.60	SOFTWARE - PROJECT EVOLUTION	8,047,879	SQ	7	0%	8,047,879	8,047,879	0		0	
303.90	SMART METER SOFTWARE	23,910,691	SQ	7	0%	23,910,691	23,403,821	506,870		116,252	
	Total Intangible Plant	99,216,553			0%	99,216,553	78,018,067	21,198,486	4.24	5,001,824	**5.04%**
	Distribution Plant										
360.20	LAND RIGHTS	28,932,719	R4	80	0%	28,932,719	17,797,447	11,135,272	40.50	274,945	**0.95%**
361.00	STRUCTURES AND IMPROVEMENTS	17,763,919	R3	70	0%	17,763,919	7,528,765	10,235,154	44.56	229,694	**1.29%**
361.10	STRUCTURES - SUBTRANS	339,223	R3	70	0%	339,223	50,866	288,357	62.91	4,584	**1.35%**
361.20	STRUCTURES - SUBTRANS (ROADS AND TRAILS)	11,908	R3	75	0%	11,908	8,805	3,103	31.23	99	**0.83%**
362.00	STATION EQUIPMENT	329,710,173	R2	60	0%	329,710,173	103,011,295	226,698,878	43.73	5,184,058	**1.57%**
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,919,660	R2	60	0%	11,919,660	1,232,464	10,687,196	53.47	199,873	**1.68%**
364.00	POLES, TOWERS AND FIXTURES	572,974,394	R1.5	65	0%	572,974,394	155,049,196	417,925,198	50.14	8,335,165	**1.45%**
364.10	POLES, TOWERS AND FIXTURES - SUBTRANS	36,126	R4	80	0%	36,126	29,385	6,741	25.51	264	**0.73%**
364.11	POLES, TOWERS AND FIXTURES - SUBTRANS	3,234,422	R1.5	65	0%	3,234,422	822,531	2,411,891	53.78	44,847	**1.39%**
365.00	OH CONDUCTORS AND DEVICES	679,817,827	O1	60	0%	679,817,827	94,197,472	585,620,355	53.13	11,022,405	**1.62%**
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	1,345,785	O1	60	0%	1,345,785	488,613	857,172	47.30	18,122	**1.35%**
365.10	OH CONDUCTORS - CLEARING AND ROW	229,365,878	R4	70	0%	229,365,878	45,398,298	183,967,580	57.05	3,224,673	**1.41%**
365.11	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	429,030	R4	70	0%	429,030	362,119	66,911	38.28	1,748	**0.41%**
366.00	UG CONDUIT	35,459,380	R1.5	65	0%	35,459,380	16,115,399	19,343,981	40.35	479,405	**1.35%**
367.00	UG CONDUCTORS AND DEVICES	332,492,307	R2	50	0%	332,492,307	107,909,757	224,582,550	36.99	6,071,440	**1.83%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,536,544	R2	50	0%	1,536,544	377,486	1,159,058	40.48	28,633	**1.86%**
368.00	LINE TRANSFORMERS	507,003,843	R1.5	43	0%	507,003,843	196,919,851	310,083,992	29.08	10,663,136	**2.10%**
369.00	OVERHEAD SERVICES	96,284,019	R1	44	0%	96,284,019	33,042,193	63,241,826	30.58	2,068,078	**2.15%**
369.10	UNDERGROUND SERVICES	104,052,556	R3	60	0%	104,052,556	63,494,549	40,558,007	32.32	1,254,889	**1.21%**
370.10	METERS - SMART GRID	145,648,562	S2	15	0%	145,648,562	47,980,838	97,667,724	9.40	10,390,183	**7.13%**
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	4,173,138	R0.5	37	0%	4,173,138	2,588,111	1,585,027	23.50	67,448	**1.62%**
371.21	INSTALLATIONS - METER SOCKET DEVICES	412,208	R2.5	25	0%	412,208	390,611	21,597	4.95	4,363	**1.06%**
371.23	INSTALLATIONS - SURGE SUPPRESSION	276,708	S2.5	20	0%	276,708	276,708	0			
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	16,309,455	R1	28	0%	16,309,455	4,991,479	11,317,976	19.65	575,978	**3.53%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	3,808,436	S0	20	0%	3,808,436	564,071	3,244,365	16.56	195,916	**5.14%**
	Total Distribution Plant	3,123,338,218			0%	3,123,338,218	900,628,309	2,222,709,909	36.84	60,339,946	**1.93%**
	General Plant										

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
389.20	TRANSPORTATION EQUIPMENT	18,078	R2	70	0%	18,078	16,310	1,768	25.60	69	**0.38%**
390.10	STRUCTURES AND IMPROVEMENTS										
	MISCELLANEOUS IMPROVEMENTS - MINOR	39,925,052	R1.5	40	0%	39,925,052	11,114,845	28,810,207	22.10	1,303,629	**3.27%**
	CORPORATE HEADQUARTERS - READING	63,279,337	R2	65	0%	63,279,337	34,193,683	29,085,654	15.30	1,901,023	**3.00%**
	LEBANON SERVICE CENTER	7,363,967	R2	65	0%	7,363,967	3,336,884	4,027,083	19.10	210,842	**2.86%**
	EASTON SERVICE CENTER	7,191,589	R2	65	0%	7,191,589	4,226,780	2,964,809	8.20	361,562	**5.03%**
	YORK SERVICE CENTER	12,697,226	R2	65	0%	12,697,226	6,699,191	5,998,035	9.20	651,960	**5.13%**
	TOTAL ACCOUNT 390.10	130,457,171			0%	130,457,171	59,571,383	70,885,788	16.00	4,429,017	**3.39%**
390.20	STRUCTURES - CLEARING AND GRADING										
	MISCELLANEOUS IMPROVEMENTS - MINOR	4,198,929	R1.5	40	0%	4,198,929	3,173,893	1,025,036	15.00	68,336	**1.63%**
	CORPORATE HEADQUARTERS - READING	5,082,077	R4	65	0%	5,082,077	3,289,201	1,792,876	15.80	113,473	**2.23%**
	LEBANON SERVICE CENTER	997,792	R4	65	0%	997,792	773,014	224,778	17.10	13,145	**1.32%**
	EASTON SERVICE CENTER	1,331,356	R4	65	0%	1,331,356	1,086,648	244,708	8.40	29,132	**2.19%**
	YORK SERVICE CENTER	1,783,426	R4	65	0%	1,783,426	1,498,245	285,181	9.30	30,665	**1.72%**
	TOTAL ACCOUNT 390.20	13,393,580			0%	13,393,580	9,821,001	3,572,579	14.02	254,750	**1.90%**
391.00	OFFICE FURNITURE - FURNITURE	2,541,588	SQ	20	0%	2,541,588	1,928,722	612,866	7.80	78,573	**3.09%**
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	2,921,741	SQ	5	0%	2,921,741	2,071,230	850,511	2.80	303,754	**10.40%**
391.50	OFFICE FURNITURE - DATA PROCESSING SMART METERS	3,480,585	SQ	5	0%	3,480,585	1,364,770	2,115,815	3.70	571,842	**16.43%**
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	4,905,873	R4	12	0%	4,905,873	2,150,287	2,755,586	7.00	393,655	**8.02%**
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	668,412	S1.5	34	0%	668,412	587,816	80,596	10.70	7,532	**1.13%**
392.50	TRANSPORTATION EQUIPMENT - VAN TRAILERS	87,237	S2.5	25	0%	87,237	85,737	1,500	4.30	349	**0.40%**
393.00	STORES EQUIPMENT	55,534	SQ	25	0%	55,534	43,299	12,235	8.70	1,406	**2.53%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	13,123,320	SQ	25	0%	13,123,320	4,232,782	8,890,538	17.20	516,892	**3.94%**
395.00	LABORATORY EQUIPMENT	85,698	SQ	20	0%	85,698	85,698	0			
396.00	POWER OPERATED EQUIPMENT	1,248,544	R0.5	33	0%	1,248,544	675,711	572,833	17.30	33,112	**2.65%**
397.00	COMMUNICATION EQUIPMENT	27,133,863	SQ	25	0%	27,133,863	4,344,588	22,789,275	18.50	1,231,853	**4.54%**
398.00	MISCELLANEOUS EQUIPMENT	66,807	SQ	20	0%	66,807	56,117	10,690	7.60	1,407	**2.11%**
	Total General Plant	200,188,031			0%	200,188,031	87,035,451	113,152,580	14.46	7,824,210	**3.91%**
	Total Plant Studied - MetEd	**3,422,742,802**			**0%**	**3,422,742,802**	**1,065,681,827**	**2,357,060,975**	**32.22**	**73,165,980**	**2.14%**

PENNSYLVANIA ELECTRIC COMPANY

	Intangible Plant										
303.00	SOFTWARE - OTHER	70,978,120	SQ	7	0%	70,978,120	47,768,580	23,209,540		6,227,009	
303.30	SOFTWARE - PROJECT EVOLUTION	9,079,604	SQ	7	0%	9,079,604	9,079,604	0		0	
303.60	SMART METER SOFTWARE	25,257,809	SQ	7	0%	25,257,809	25,163,421	94,388		14,521	
303.70	SOFTWARE - CLOUD	429,237	SQ	5	0%	429,237	44,152	385,085		86,750	

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	Total Intangible Plant	105,744,770			0%	105,744,770	82,055,757	23,689,013	3.74	6,328,280	**5.98%**
	Distribution Plant										
360.20	LAND RIGHTS	15,602,749	R3	75	0%	15,602,749	11,284,408	4,318,341	31.26	138,143	**0.89%**
361.00	STRUCTURES AND IMPROVEMENTS	18,435,042	R2.5	65	0%	18,435,042	9,760,782	8,674,260	38.15	227,372	**1.23%**
361.10	STRUCTURES - SUBTRANS	427,196	R2.5	65	0%	427,196	227,633	199,563	52.08	3,832	**0.90%**
362.00	STATION EQUIPMENT	401,242,855	R1.5	62	0%	401,242,855	121,988,566	279,254,289	46.74	5,974,632	**1.49%**
362.10	STATION EQUIPMENT - SUBTRANS	11,560,420	R1.5	62	0%	11,560,420	-128,079	11,688,499	55.86	209,246	**1.81%**
364.00	POLES, TOWERS AND FIXTURES	710,619,681	R3	65	0%	710,619,681	223,922,978	486,696,703	46.12	10,552,834	**1.49%**
364.20	POLES AND FIXTURES - SUBTRANSMISSION	535,896	R3	65	0%	535,896	-97,765	633,661	57.82	10,959	**2.05%**
365.00	OH CONDUCTORS AND DEVICES	952,043,716	R0.5	60	0%	952,043,716	194,039,562	758,004,154	49.05	15,453,703	**1.62%**
365.10	OH CONDUCTORS - CLEARING AND ROW	283,177,860	R4	75	0%	283,177,860	49,832,198	233,345,662	63.24	3,689,843	**1.30%**
365.20	OVERHEAD CONDUCTORS - SUBTRANS	750,194	R0.5	60	0%	750,194	95,610	654,584	53.76	12,176	**1.62%**
365.30	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	37,157	R4	75	0%	37,157	14,387	22,770	64.23	355	**0.95%**
366.00	UG CONDUIT	46,775,767	R2	65	0%	46,775,767	20,433,357	26,342,410	41.32	637,522	**1.36%**
367.00	UG CONDUCTORS AND DEVICES	243,400,049	R2.5	44	0%	243,400,049	86,368,690	157,031,359	29.97	5,239,618	**2.15%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,286,184	R2.5	44	0%	1,286,184	139,339	1,146,845	39.76	28,844	**2.24%**
368.00	LINE TRANSFORMERS	465,080,920	R1	44	0%	465,080,920	178,341,178	286,739,742	30.83	9,300,673	**2.00%**
369.00	OVERHEAD SERVICES	91,479,578	R1	60	0%	91,479,578	29,324,375	62,155,203	44.15	1,407,819	**1.54%**
369.10	UNDERGROUND SERVICES	48,077,322	R1	60	0%	48,077,322	32,331,336	15,745,986	37.79	416,671	**0.87%**
370.10	METERS - SMART GRID	146,035,788	S2	15	0%	146,035,788	51,827,813	94,207,975	8.93	10,549,605	**7.22%**
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	28,306,985	R0.5	30	0%	28,306,985	22,343,029	5,963,957	14.54	410,176	**1.45%**
371.21	INSTALLATIONS - METER SOCKET DEVICES	223,738	R2.5	25	0%	223,738	210,236	13,503	4.96	2,722	**1.22%**
371.23	INSTALLATIONS - SURGE SUPPRESSION	147,697	S3	20	0%	147,697	147,697	0	0.00		
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	196,313	R3	40	0%	196,313	193,579	2,734	10.66	256	**0.13%**
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	37,041,361	R1	20	0%	37,041,361	6,850,119	30,191,242	13.68	2,206,962	**5.96%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	10,035,760	R1	20	0%	10,035,760	2,466,926	7,568,834	16.95	446,539	**4.45%**
	Total Distribution Plant	3,512,520,229			0%	3,512,520,229	1,041,917,953	2,470,602,276	36.92	66,920,503	**1.91%**
	General Plant										
389.20	LAND RIGHTS	20,957	R3	70	0%	20,957	212,239	-191,283			
390.10	STRUCTURES AND IMPROVEMENTS										
	MISCELLANEOUS IMPROVEMENTS - MINOR	46,120,484	S0	45	0%	46,120,484	13,455,948	32,664,536	24.80	1,317,118	**2.86%**
	RICHLAND OPERATING CENTER	9,970,307	S0	80	0%	9,970,307	5,916,905	4,053,402	11.90	340,622	**3.42%**
	ERIE OPERATING CENTER	18,088,751	S0	80	0%	18,088,751	8,009,171	10,079,580	13.70	735,736	**4.07%**
	ALTOONA OPERATING CENTER	12,755,018	S0	80	0%	12,755,018	6,674,583	6,080,435	12.80	475,034	**3.72%**
	TOTAL ACCOUNT 390.10	86,934,560			0%	86,934,560	34,056,607	52,877,952	18.43	2,868,510	**3.30%**
390.20	MISCELLANEOUS IMPROVEMENTS	7,098,844	R0.5	40	0%	7,098,844	5,387,572	1,711,272	19.00	90,067	**1.27%**
391.00	OFFICE FURNITURE - FURNITURE	344,061	SQ	20	0%	344,061	246,147	97,915	13.80	7,095	**2.06%**

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
391.25	OFFICE FURNITURE - DATA PROCESSING SMART METERS	6,780,082	SQ	5	0%	6,780,082	3,884,745	2,895,337	2.20	1,316,062	**19.41%**
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	2,728,437	SQ	5	0%	2,728,437	1,203,774	1,524,663	2.30	662,897	**24.30%**
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	623,578	L3	13	0%	623,578	518,851	104,726	3.10	33,783	**5.42%**
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	2,833,893	L2	30	0%	2,833,893	1,828,576	1,005,317	10.30	97,604	**3.44%**
392.50	TRANSPORTATION EQUIPMENT - OTHER	6,844,505	L3	10	0%	6,844,505	3,458,272	3,386,233	6.60	513,066	**7.50%**
393.00	STORES EQUIPMENT	40,196	SQ	25	0%	40,196	40,196	0			
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,200,665	SQ	25	0%	19,200,665	6,761,847	12,438,818	13.70	907,943	**4.73%**
395.00	LABORATORY EQUIPMENT	111,815	SQ	20	0%	111,815	111,815	0			
396.00	POWER OPERATED EQUIPMENT	5,158,780	SQ	35	0%	5,158,780	4,690,973	467,808	16.50	28,352	**0.55%**
397.00	COMMUNICATION EQUIPMENT	47,113,172	SQ	15	0%	47,113,172	15,536,826	31,576,345	8.40	3,759,089	**7.98%**
398.00	MISCELLANEOUS EQUIPMENT	72,841	SQ	20	0%	72,841	53,992	18,849	11.80	1,597	**2.19%**
	Total General Plant	185,906,385			0%	185,906,385	77,992,433	107,913,952	10.49	10,286,064	**5.53%**
	Total Plant Studied - Penelec	**3,804,171,384**			**0%**	**3,804,171,384**	**1,201,966,142**	**2,602,205,241**	**31.15**	**83,534,847**	**2.20%**
	PENNSYLVANIA POWER COMPANY										
	Intangible Plant										
303.00	SOFTWARE - OTHER	16,674,131	SQ	7	0%	16,674,131	11,155,288	5,518,843		1,322,389	
303.10	SMART METER SOFTWARE	7,170,029	SQ	7	0%	7,170,029	6,709,950	460,079		101,121	
303.70	SOFTWARE - CLOUD	124,316	SQ	5	0%	124,316	14,097	110,220		24,840	
	Total Intangible Plant	23,968,476			0%	23,968,476	17,879,335	6,089,142	4.20	1,448,350	**6.04%**
	Distribution Plant										
361.10	STRUCTURES AND IMPROVEMENTS	3,499,962	R4	70	0%	3,499,962	814,224	2,685,738	55.94	48,011	**1.37%**
361.11	STRUCTURES - SUBTRANS	790,187	R4	70	0%	790,187	589,583	200,604	30.36	6,608	**0.84%**
361.20	STRUCTURES - CLEARING AND GRADING	454,298	R4	70	0%	454,298	245,936	208,362	41.32	5,043	**1.11%**
361.21	STRUCTURES - CLEARING AND GRADING - SUBTRANS	195,216	R4	70	0%	195,216	134,705	60,511	34.38	1,760	**0.90%**
362.00	STATION EQUIPMENT	110,539,589	R1	52	0%	110,539,589	23,988,840	86,550,748	43.11	2,007,672	**1.82%**
362.10	STATION EQUIPMENT - SUBTRANS	8,596,050	R1	52	0%	8,596,050	5,084,706	3,511,344	32.03	109,627	**1.28%**
364.00	POLES, TOWERS AND FIXTURES	147,023,829	R1.5	65	0%	147,023,829	47,989,139	99,034,689	49.78	1,989,447	**1.35%**
364.10	TOWERS AND FIXTURES - SUBTRANS	7,576	R4	75	0%	7,576	7,529	47	9.88	5	**0.06%**
364.20	POLES AND FIXTURES - SUBTRANS	8,799,357	R1.5	65	0%	8,799,357	369,561	8,429,796	60.58	139,151	**1.58%**
365.00	OH CONDUCTORS AND DEVICES	185,829,135	R1	65	0%	185,829,135	29,836,539	155,992,596	54.95	2,838,810	**1.53%**
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	3,332,630	R1	65	0%	3,332,630	985,607	2,347,023	50.40	46,568	**1.40%**
365.10	OH CONDUCTORS - CLEARING AND GRADING	78,494,769	R1	64	0%	78,494,769	15,046,155	63,448,614	56.28	1,127,374	**1.44%**
366.00	UG CONDUIT	8,152,468	R2.5	70	0%	8,152,468	3,337,850	4,814,618	47.40	101,574	**1.25%**
366.10	UG CONDUIT - SUBTRANS	64,654	R2.5	70	0%	64,654	59,654	5,000	27.33	183	**0.28%**
367.00	UG CONDUCTORS AND DEVICES	96,353,635	R2.5	50	0%	96,353,635	29,685,623	66,668,012	35.95	1,854,465	**1.92%**

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	108,081	R2.5	50	0%	108,081	50,944	57,138	29.93	1,909	**1.77%**
368.00	LINE TRANSFORMERS	135,645,971	R1.5	43	0%	135,645,971	42,141,796	93,504,175	30.59	3,056,691	**2.25%**
369.00	SERVICES	47,931,906	R4	60	0%	47,931,906	24,068,344	23,863,562	37.82	630,977	**1.32%**
370.10	METERS - SMART GRID	51,150,649	S2	15	0%	51,150,649	22,925,268	28,225,381	7.94	3,554,834	**6.95%**
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	4,092,193	R2	33	0%	4,092,193	2,983,389	1,108,804	13.65	81,231	**1.99%**
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	3,813,840	R2	20	0%	3,813,840	1,718,517	2,095,323	10.65	196,744	**5.16%**
373.20	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	24,978	R2	20	0%	24,978	8,059	16,919	10.32	1,639	**6.56%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	4,920,560	R2	20	0%	4,920,560	1,308,151	3,612,409	15.29	236,260	**4.80%**
	Total Distribution Plant	899,821,533			0%	899,821,533	253,380,120	646,441,413	35.84	18,036,583	**2.00%**
	General Plant										
390.10	STRUCTURES AND IMPROVEMENTS	8,632,924	R2	55	0%	8,632,924	3,607,426	5,025,498	31.70	158,533	**1.84%**
390.20	STRUCTURES - CLEARING AND GRADING	41,241	R2	55	0%	41,241	13,332	27,909	33.50	833	**2.02%**
391.10	OFFICE FURNITURE AND EQUIPMENT	40,139	SQ	20	0%	40,139	8,073	32,066	13.70	2,341	**5.83%**
391.20	OFFICE FURNITURE - DATA PROCESSING EQUIP	706,178	SQ	5	0%	706,178	472,879	233,299	3.10	75,258	**10.66%**
391.25	OFFICE FURNITURE - PROCESSING EQUIP SMART GRID	1,965,276	SQ	5	0%	1,965,276	1,216,651	748,625	2.80	267,366	**13.60%**
392.00	TRANSPORTATION EQUIPMENT	1,559,976	L2	10	0%	1,559,976	897,128	662,848	6.00	110,475	**7.08%**
393.00	STORES EQUIPMENT	26,718	SQ	30	0%	26,718	26,431	287	1.50	192	**0.72%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	3,681,862	SQ	25	0%	3,681,862	834,893	2,846,969	18.60	153,063	**4.16%**
395.00	LABORATORY EQUIPMENT	21,540	SQ	20	0%	21,540	17,189	4,351	3.50	1,243	**5.77%**
396.00	POWER OPERATED EQUIPMENT	1,391,715	S2	20	0%	1,391,715	456,140	935,575	13.90	67,308	**4.84%**
397.00	COMMUNICATION EQUIPMENT	9,552,324	SQ	15	0%	9,552,324	1,679,010	7,873,314	8.70	904,979	**9.47%**
398.00	MISCELLANEOUS EQUIPMENT	7,595	SQ	20	0%	7,595	7,595	0			
	Total General Plant	27,627,487			0%	27,627,487	9,236,747	18,390,740	10.56	1,741,589	**6.30%**
	Total Plant Studied - Penn Power	**951,417,497**			**0%**	**951,417,497**	**280,496,202**	**670,921,295**	**31.61**	**21,226,521**	**2.23%**

WEST PENN POWER COMPANY

	Intangible Plant										
303.10	SOFTWARE - 7 YEAR LIFE	62,559,720	SQ	7	0%	62,559,720	40,871,961	21,687,760		8,533,456	
303.20	SOFTWARE - 10 YEAR LIFE	60,361,885	SQ	10	0%	60,361,885	59,892,222	469,663		58,524	
303.30	SOFTWARE - CLOUD	434,948	SQ	5	0%	434,948	50,596	384,353		86,735	
	Total Intangible Plant	123,356,554			0%	123,356,554	100,814,779	22,541,775	2.60	8,678,715	**7.04%**
	Distribution Plant										

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
360.20	LAND RIGHTS	10,877,053	R4	75	0%	10,877,053	5,101,395	5,775,658	37.64	153,445	**1.41%**
361.00	STRUCTURES AND IMPROVEMENTS	24,234,956	R3	70	0%	24,234,956	11,837,490	12,397,466	41.74	297,016	**1.23%**
362.10	STATION EQUIPMENT	411,121,234	R1.5	60	0%	411,121,234	172,570,974	238,550,260	42.18	5,655,530	**1.38%**
362.15	STATION EQUIPMENT - SUBTRANS	18,897,056	R1.5	60	0%	18,897,056	9,814,766	9,082,290	39.63	229,177	**1.21%**
362.40	STATION EQUIPMENT - SCADA	4,897,085	R2.5	35	0%	4,897,085	4,422,543	474,541	13.10	36,225	**0.74%**
364.00	POLES, TOWERS AND FIXTURES	454,536,867	R2	70	0%	454,536,867	131,595,379	322,941,488	55.10	5,861,007	**1.29%**
364.55	POLES AND FIXTURES - SUBTRANS	73,660,720	R2	70	0%	73,660,720	36,477,669	37,183,051	42.50	874,895	**1.19%**
365.10	OH CONDUCTORS AND DEVICES	548,769,709	R1	60	0%	548,769,709	95,818,887	452,950,822	49.63	9,126,553	**1.66%**
365.15	OH CONDUCTORS AND DEVICES - SUBTRANS	57,488,342	R1	60	0%	57,488,342	23,356,699	34,131,643	39.66	860,606	**1.50%**
365.20	OH CONDUCTORS - CLEARING AND DAMAGES	321,019,156	R4	75	0%	321,019,156	48,458,789	272,560,366	63.69	4,279,484	**1.33%**
365.25	OH CONDUCTORS - CLEARING - SUBTRANS	24,960,133	R4	75	0%	24,960,133	4,712,842	20,247,292	62.34	324,788	**1.30%**
366.00	UG CONDUIT	24,641,325	R3	65	0%	24,641,325	8,866,531	15,774,794	41.71	378,202	**1.53%**
366.50	UG CONDUIT - SUBTRANS	11,035	R3	65	0%	11,035	983	10,052	58.01	173	**1.57%**
367.00	UG CONDUCTORS AND DEVICES	238,212,571	R2.5	55	0%	238,212,571	63,202,566	175,010,006	42.88	4,081,390	**1.71%**
367.50	UG CONDUCTORS AND DEVICES - SUBTRANS	13,620,058	R2.5	55	0%	13,620,058	6,175,960	7,444,098	36.60	203,391	**1.49%**
368.00	LINE TRANSFORMERS	496,413,454	R1.5	48	0%	496,413,454	186,256,930	310,156,524	33.30	9,314,010	**1.88%**
369.00	SERVICES	143,221,031	R2.5	55	0%	143,221,031	62,628,882	80,592,149	36.06	2,234,946	**1.56%**
370.30	METERS - SMART GRID	205,174,341	S2	15	0%	205,174,341	75,446,224	129,728,117	9.38	13,830,290	**6.74%**
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	9,987,325	R1.5	32	0%	9,987,325	6,215,912	3,771,413	18.63	202,438	**2.03%**
372.00	LEASED PROPERTY	296,619	R1.5	30	0%	296,619	273,421	23,198	10.37	2,237	**0.75%**
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	25,593,483	L0	25	0%	25,593,483	6,497,117	19,096,366	17.67	1,080,722	**4.22%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	23,688,085	R2	20	0%	23,688,085	2,589,173	21,098,912	15.24	1,384,443	**5.84%**
	Total Distribution Plant	3,131,321,638			0%	3,131,321,638	962,321,131	2,169,000,507	35.90	60,410,968	**1.93%**
	General Plant										
389.20	LAND RIGHTS	293,153	R4	75	0%	293,153	143,003	150,150	37.80	3,972	**1.35%**
390.10	STRUCTURES AND IMPROVEMENTS										
	ARNOLD SERVICE CENTER	3,558,667	S0.5	55	0%	3,558,667	1,772,184	1,786,483	6.40	279,138	**7.84%**
	BOYCE SERVICE CENTER	2,167,493	S0.5	55	0%	2,167,493	740,548	1,426,945	17.60	81,076	**3.74%**
	BUTLER SERVICE CENTER	3,006,897	S0.5	55	0%	3,006,897	1,263,114	1,743,783	10.10	172,652	**5.74%**
	CHARLEROI SERVICE CENTER	4,892,376	S0.5	55	0%	4,892,376	3,143,757	1,748,619	11.70	149,455	**3.05%**
	CLARION SERVICE CENTER AND POLE YARD	1,754,808	S0.5	55	0%	1,754,808	568,123	1,186,684	18.30	64,846	**3.70%**
	CONNELLSVILLE CONFERENCE CENTER	2,806,195	S0.5	55	0%	2,806,195	1,458,734	1,347,461	17.20	78,341	**2.79%**
	CONNELLSVILLE HAZARDOUS MATERIAL	706,428	S0.5	55	0%	706,428	338,752	367,675	17.50	21,010	**2.97%**
	CONNELLSVILLE METER LAB AND STOREHOUSE	828,706	S0.5	55	0%	828,706	827,437	1,270	16.70	76	**0.01%**
	CONNELLSVILLE COVERED STORAGE AND OFFICE	12,052,051	S0.5	55	0%	12,052,051	2,630,293	9,421,758	16.90	557,500	**4.63%**
	CONNELLSVILLE QUONSET STOREHOUSE	193,295	S0.5	55	0%	193,295	193,295	0			
	CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	2,169,792	S0.5	55	0%	2,169,792	1,110,187	1,059,605	12.60	84,096	**3.88%**
	CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	527,203	S0.5	55	0%	527,203	527,203	0			
	CONNELLSVILLE GARAGE	4,104,512	S0.5	55	0%	4,104,512	1,733,637	2,370,876	18.20	130,268	**3.17%**
	CONNELLSVILLE WEST SIDE COMPLEX	2,128,076	S0.5	55	0%	2,128,076	1,739,667	388,409	11.70	33,197	**1.56%**
	DUNBAR STORAGE FACILITY	2,682,456	S0.5	55	0%	2,682,456	1,558,327	1,124,128	8.80	127,742	**4.76%**

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	JEANETTE SERVICE CENTER	8,127,361	S0.5	55	0%	8,127,361	4,039,911	4,087,450	20.40	200,365	**2.47%**
	JEANETTE SERVICE CENTER GARAGE	921,620	S0.5	55	0%	921,620	476,393	445,227	17.50	25,442	**2.76%**
	JEFFERSON SERVICE CENTER	2,287,324	S0.5	55	0%	2,287,324	1,695,442	591,883	6.30	93,950	**4.11%**
	KITTANNING SERVICE CENTER	3,869,062	S0.5	55	0%	3,869,062	2,162,692	1,706,370	19.10	89,339	**2.31%**
	KITTANNING SERVICE CENTER GARAGE	745,933	S0.5	55	0%	745,933	469,239	276,694	16.80	16,470	**2.21%**
	LATROBE SERVICE CENTER	4,805,647	S0.5	55	0%	4,805,647	1,365,141	3,440,505	8.30	414,519	**8.63%**
	MCCONNELLSBURG SERVICE CENTER	1,472,017	S0.5	55	0%	1,472,017	472,919	999,098	17.20	58,087	**3.95%**
	PLEASANT VALLEY SERVICE CENTER	3,263,966	S0.5	55	0%	3,263,966	1,961,060	1,302,906	9.10	143,177	**4.39%**
	ST. MARYS SERVICE CENTER	4,339,296	S0.5	55	0%	4,339,296	1,834,850	2,504,446	19.90	125,852	**2.90%**
	ST. MARYS SERVICE CENTER GARAGE	1,785,129	S0.5	55	0%	1,785,129	628,687	1,156,442	19.20	60,231	**3.37%**
	STATE COLLEGE SERVICE CENTER GARAGE	1,961,300	S0.5	55	0%	1,961,300	945,289	1,016,011	18.10	56,133	**2.86%**
	WASHINGTON SERVICE CENTER	12,628,099	S0.5	55	0%	12,628,099	1,095,534	11,532,565	8.30	1,389,466	**11.00%**
	WAYNESBORO SERVICE CENTER	3,395,224	S0.5	55	0%	3,395,224	1,390,152	2,005,073	19.30	103,890	**3.06%**
	WAYNESBORO SERVICE CENTER GARAGE	962,920	S0.5	55	0%	962,920	468,250	494,670	17.90	27,635	**2.87%**
	MINOR STRUCTURES	6,992,527	S0.5	55	0%	6,992,527	986,688	6,005,840	22.20	270,533	**3.87%**
	TOTAL ACCOUNT 390.10	101,136,380			0%	101,136,380	39,597,505	61,538,875	12.68	4,854,484	**4.80%**
391.10	OFFICE FURNITURE - FURNITURE	3,250,487	SQ	16	0%	3,250,487	2,256,361	994,126	5.40	184,097	**5.66%**
391.20	OFFICE FURNITURE - INFORMATION SYSTEMS	7,821,534	SQ	7	0%	7,821,534	3,205,666	4,615,868	3.90	1,183,556	**15.13%**
391.30	OFFICE FURNITURE - DATA HANDLING EQUIPMENT	21,151	SQ	16	0%	21,151	21,150	0			
391.50	OFFICE FURNITURE - SMART METERS HARDWARE	5,526,724	SQ	5	0%	5,526,724	2,140,544	3,386,180	3.30	1,026,115	**18.57%**
392.10	TRANSPORTATION EQUIP - AUTOS	8,058,657	S2	8	0%	8,058,657	4,216,565	3,842,093	3.70	1,038,403	**12.89%**
392.20	TRANSPORTATION EQUIP - LIGHT TRUCKS	1,386,702	S1	12	0%	1,386,702	952,769	433,933	3.30	131,495	**9.48%**
392.30	TRANSPORTATION EQUIP - MEDIUM AND HEAVY TRUCKS	805,638	L3	12	0%	805,638	446,482	359,156	3.30	108,835	**13.51%**
392.40	TRANSPORTATION EQUIP - TRAILERS	438,040	S1	24	0%	438,040	324,652	113,388	12.50	9,071	**2.07%**
392.60	TRANSPORTATION EQUIP - ALL TERRAIN VEHICLES	200,859	S2.5	11	0%	200,859	181,753	19,106	2.00	9,553	**4.76%**
393.00	STORES EQUIPMENT	311,863	SQ	25	0%	311,863	264,375	47,488	4.90	9,691	**3.11%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,645,759	SQ	15	0%	19,645,759	9,083,770	10,561,988	8.00	1,320,249	**6.72%**
395.00	LABORATORY EQUIPMENT	384,080	SQ	23	0%	384,080	314,360	69,720	5.60	12,450	**3.24%**
396.00	POWER OPERATED EQUIPMENT	265,470	S0.5	20	0%	265,470	225,519	39,951	9.00	4,439	**1.67%**
397.00	COMMUNICATION EQUIPMENT	39,162,502	SQ	12	0%	39,162,502	17,421,188	21,741,314	6.30	3,451,002	**8.81%**
398.00	MISCELLANEOUS EQUIPMENT	223,983	SQ	14	0%	223,983	223,983	0			
	Total General Plant	188,932,983			0%	188,932,983	81,019,646	107,913,337	8.08	13,347,414	**7.06%**
	Total Plant Studied - WPP	**3,443,611,175**			**0%**	**3,443,611,175**	**1,144,155,556**	**2,299,455,619**	**27.89**	**82,437,097**	**2.39%**
	TOTAL PLANT STUDIED	**11,621,942,858**			**0%**	**11,621,942,858**	**3,692,299,727**	**7,929,643,131**	**30.46**	**260,364,446**	**2.24%**

[1] From Company depreciation study

[2] Average life and Iowa curve shape selected through statistical analysis and professional judgment

Depreciation Rate Development - 2024

Account No.	Description	[1] Plant 12/31/2024	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate

[3] Net salvage rate selected through statistical analysis and professional judgment
[4] = [1]*(1-[3])
[5] From depreciation study
[6] = [4] - [5]
[7] Composite remaining life based on Iowa cuve in [2]; see remaining life exhibit for detailed calculations
[8] = [6] / [7]; some unadjusted figures hard coded to match company's proposed figures
[9] = [8] / [1]; some unadjusted figures hard coded to match company's proposed figures

Detailed Rate Comparison - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
	METROPOLITAN EDISON COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	70,656,331		4,795,431		4,795,431	0.00%	0
303.10	SOFTWARE - CLOUD	438,641		87,630		87,630	0.00%	0
303.30	SOFTWARE - PROJECT ENTERPRISE	621,985		0		0	0.00%	0
303.60	SOFTWARE - PROJECT EVOLUTION	8,047,879		0		0	0.00%	0
303.90	SMART METER SOFTWARE	23,896,722		116,518		116,518	0.00%	0
	Total Intangible Plant	103,661,558	4.82%	4,999,579	4.82%	4,999,579	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	28,932,719	0.96%	278,525	0.95%	273,968	-0.01%	-4,557
361.00	STRUCTURES AND IMPROVEMENTS	17,763,919	1.35%	240,113	1.28%	227,577	-0.07%	-12,536
361.10	STRUCTURES - SUBTRANS	339,223	1.55%	5,247	1.35%	4,566	-0.20%	-681
361.20	STRUCTURES - SUBTRANS (ROADS AND TRAILS)	11,908	0.73%	87	0.83%	99	0.10%	12
362.00	STATION EQUIPMENT	337,332,581	1.91%	6,437,605	1.56%	5,263,299	-0.35%	-1,174,306
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,919,660	2.12%	253,195	1.65%	196,686	-0.47%	-56,509
364.00	POLES, TOWERS AND FIXTURES	600,994,841	1.94%	11,648,309	1.45%	8,719,865	-0.49%	-2,928,444
364.10	POLES, TOWERS AND FIXTURES - SUBTRANS	36,126	0.56%	203	0.73%	263	0.17%	60
364.11	POLES, TOWERS AND FIXTURES - SUBTRANS	3,234,422	1.82%	59,010	1.37%	44,197	-0.45%	-14,813
365.00	OH CONDUCTORS AND DEVICES	761,125,689	2.93%	22,314,293	1.61%	12,259,464	-1.32%	-10,054,829
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	1,345,785	1.86%	24,971	1.32%	17,749	-0.54%	-7,222
365.10	OH CONDUCTORS - CLEARING AND ROW	229,365,878	1.50%	3,437,415	1.40%	3,219,099	-0.10%	-218,316
365.11	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	429,030	0.26%	1,119	0.41%	1,756	0.15%	637
366.00	UG CONDUIT	35,459,380	1.60%	566,767	1.33%	472,578	-0.27%	-94,189
367.00	UG CONDUCTORS AND DEVICES	346,055,799	2.23%	7,700,028	1.82%	6,305,049	-0.41%	-1,394,979
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,536,544	2.29%	35,117	1.84%	28,336	-0.45%	-6,781
368.00	LINE TRANSFORMERS	521,455,413	2.58%	13,451,135	2.07%	10,817,538	-0.51%	-2,633,597
369.00	OVERHEAD SERVICES	97,428,589	2.74%	2,665,331	2.10%	2,041,607	-0.64%	-623,724
369.10	UNDERGROUND SERVICES	104,045,959	1.30%	1,356,246	1.20%	1,243,594	-0.10%	-112,652
370.10	METERS - SMART GRID	150,001,444	7.96%	11,937,520	6.78%	10,176,321	-1.18%	-1,761,199
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	4,173,138	1.82%	75,965	1.55%	64,681	-0.27%	-11,284

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Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
371.21	INSTALLATIONS - METER SOCKET DEVICES	412,208	0.95%	3,923	0.89%	3,665	-0.06%	-258
371.23	INSTALLATIONS - SURGE SUPPRESSION	276,708	0.00%	0	0.00%	0	0.00%	0
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	16,749,801	4.53%	759,379	3.38%	565,647	-1.15%	-193,732
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	4,081,239	6.86%	279,892	4.91%	200,536	-1.95%	-79,356
	Total Distribution Plant	3,274,508,003	2.55%	83,531,395	1.90%	62,148,141	-0.65%	-21,383,254
	General Plant							
389.20	TRANSPORTATION EQUIPMENT	18,078	0.37%	67	0.37%	67	0.00%	0
390.10	STRUCTURES AND IMPROVEMENTS							
	MISCELLANEOUS IMPROVEMENTS - MINOR	46,759,877	3.27%	1,528,594	3.27%	1,526,825	0.00%	-1,769
	CORPORATE HEADQUARTERS - READING	64,119,551	3.03%	1,945,528	3.04%	1,951,640	0.01%	6,112
	LEBANON SERVICE CENTER	7,363,967	2.83%	208,505	2.83%	208,685	0.00%	180
	EASTON SERVICE CENTER	7,191,589	5.00%	359,384	4.99%	359,067	-0.01%	-317
	YORK SERVICE CENTER	12,697,226	5.10%	647,848	5.10%	647,673	0.00%	-175
	TOTAL ACCOUNT 390.10	138,132,209	3.40%	4,689,859	3.40%	4,693,889	0.00%	4,030
390.20	STRUCTURES - CLEARING AND GRADING							
	MISCELLANEOUS IMPROVEMENTS - MINOR	4,081,930	1.64%	66,826	1.64%	66,897	0.00%	71
	CORPORATE HEADQUARTERS - READING	5,067,693	2.23%	113,128	2.23%	113,035	0.00%	-93
	LEBANON SERVICE CENTER	997,792	1.32%	13,142	1.32%	13,174	0.00%	32
	EASTON SERVICE CENTER	1,331,356	2.15%	28,562	2.15%	28,564	0.00%	2
	YORK SERVICE CENTER	1,783,426	1.69%	30,090	1.69%	30,112	0.00%	22
	TOTAL ACCOUNT 390.20	13,262,197	1.90%	251,748	1.90%	251,781	0.00%	33
391.00	OFFICE FURNITURE - FURNITURE	1,179,090	4.79%	56,513	4.78%	56,378	-0.01%	-135
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	1,457,337	18.23%	265,632	18.13%	264,285	-0.10%	-1,347
391.50	OFFICE FURNITURE - DATA PROCESSING SMART METERS	4,541,673	20.19%	916,772	20.41%	927,041	0.22%	10,269
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	5,349,897	8.20%	438,880	8.25%	441,584	0.05%	2,704
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	661,804	1.06%	7,002	1.06%	7,033	0.00%	31
392.50	TRANSPORTATION EQUIPMENT - VAN TRAILERS	87,237	0.32%	283	0.32%	281	0.00%	-2
393.00	STORES EQUIPMENT	38,112	2.38%	908	2.37%	904	-0.01%	-4
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	13,705,567	3.94%	540,017	3.95%	541,305	0.01%	1,288

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Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
395.00	LABORATORY EQUIPMENT	85,698	0.00%	0	0.00%	0	0.00%	0
396.00	POWER OPERATED EQUIPMENT	1,248,544	2.37%	29,569	2.36%	29,494	-0.01%	-75
397.00	COMMUNICATION EQUIPMENT	29,265,610	4.44%	1,299,962	4.45%	1,301,575	0.01%	1,613
398.00	MISCELLANEOUS EQUIPMENT	66,807	2.10%	1,404	2.10%	1,406	0.00%	2
	Total General Plant	209,099,859	4.06%	8,498,616	4.07%	8,517,021	0.01%	18,405
	Total Plant Studied - MetEd	**3,587,269,420**	**2.70%**	**97,029,590**	**2.11%**	**75,664,741**	**-0.60%**	**-21,364,849**
	PENNSYLVANIA ELECTRIC COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	77,582,654		6,808,908		6,808,908	0.00%	0
303.30	SOFTWARE - PROJECT EVOLUTION	9,079,604		0		0	0.00%	0
303.60	SMART METER SOFTWARE	27,390,874		156,640		156,640	0.00%	0
303.70	SOFTWARE - CLOUD	442,650		89,670		89,670	0.00%	0
	Total Intangible Plant	114,495,783	6.16%	7,055,218	6.16%	7,055,218	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	15,602,749	0.83%	129,438	0.88%	137,017	0.05%	7,579
361.00	STRUCTURES AND IMPROVEMENTS	18,498,132	1.22%	225,132	1.22%	226,425	0.00%	1,293
361.10	STRUCTURES - SUBTRANS	427,196	1.06%	4,512	0.89%	3,810	-0.17%	-702
362.00	STATION EQUIPMENT	415,488,814	1.95%	8,094,877	1.48%	6,147,386	-0.47%	-1,947,491
362.10	STATION EQUIPMENT - SUBTRANS	11,560,420	2.44%	281,777	1.78%	206,302	-0.66%	-75,475
364.00	POLES, TOWERS AND FIXTURES	744,328,808	1.68%	12,514,942	1.49%	11,088,153	-0.19%	-1,426,789
364.20	POLES AND FIXTURES - SUBTRANSMISSION	535,896	2.37%	12,685	2.02%	10,801	-0.35%	-1,884
365.00	OH CONDUCTORS AND DEVICES	1,000,095,153	2.45%	24,460,091	1.60%	16,018,683	-0.85%	-8,441,408
365.10	OH CONDUCTORS - CLEARING AND ROW	283,177,860	1.38%	3,919,138	1.30%	3,684,956	-0.08%	-234,182
365.20	OVERHEAD CONDUCTORS - SUBTRANS	750,194	2.41%	18,111	1.59%	11,925	-0.82%	-6,186
365.30	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	37,157	1.02%	379	0.95%	354	-0.07%	-25

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Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
366.00	UG CONDUIT	46,814,591	1.57%	732,710	1.35%	630,786	-0.22%	-101,924
367.00	UG CONDUCTORS AND DEVICES	259,422,027	2.51%	6,521,669	2.15%	5,581,975	-0.36%	-939,694
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,286,184	2.71%	34,840	2.22%	28,583	-0.49%	-6,257
368.00	LINE TRANSFORMERS	499,072,584	2.68%	13,372,805	2.00%	9,996,134	-0.68%	-3,376,671
369.00	OVERHEAD SERVICES	96,010,506	2.09%	2,002,132	1.53%	1,465,545	-0.56%	-536,587
369.10	UNDERGROUND SERVICES	48,077,318	0.99%	475,654	0.85%	410,672	-0.14%	-64,982
370.10	METERS - SMART GRID	151,072,817	7.99%	12,078,126	6.82%	10,309,386	-1.17%	-1,768,740
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	28,306,985	1.38%	392,047	1.38%	390,588	0.00%	-1,459
371.21	INSTALLATIONS - METER SOCKET DEVICES	223,738	1.09%	2,449	1.02%	2,288	-0.07%	-161
371.23	INSTALLATIONS - SURGE SUPPRESSION	147,697	0.00%	0	0.00%	0	0.00%	0
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	196,313	0.07%	136	0.13%	256	0.06%	120
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	40,123,986	7.62%	3,057,242	5.53%	2,218,027	-2.09%	-839,215
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	11,697,257	6.27%	733,022	4.37%	510,765	-1.90%	-222,257
	Total Distribution Plant	3,672,954,383	2.42%	89,063,914	1.88%	69,080,815	-0.54%	-19,983,099
	General Plant							
389.20	LAND RIGHTS	20,957	0.00%	0	0.00%	0	0.00%	0
390.10	STRUCTURES AND IMPROVEMENTS							
	MISCELLANEOUS IMPROVEMENTS - MINOR	50,750,356	2.87%	1,454,414	2.87%	1,456,324	0.00%	1,910
	RICHLAND OPERATING CENTER	9,970,307	3.41%	340,258	3.42%	341,103	0.01%	845
	ERIE OPERATING CENTER	18,791,499	4.19%	786,836	4.20%	789,769	0.01%	2,933
	ALTOONA OPERATING CENTER	12,755,018	3.71%	473,029	3.72%	474,053	0.01%	1,024
	TOTAL ACCOUNT 390.10	92,267,180	3.31%	3,054,537	3.32%	3,061,248	0.01%	6,711
390.20	MISCELLANEOUS IMPROVEMENTS	7,098,844	1.23%	86,964	1.23%	87,152	0.00%	188
391.00	OFFICE FURNITURE - FURNITURE	344,061	2.06%	7,103	2.06%	7,097	0.00%	-6
391.20	OFFICE FURNITURE - OFFICE MACHINES	1,944,806	10.53%	204,716	10.53%	204,716	0.00%	0
391.25	OFFICE FURNITURE - DATA PROCESSING SMART METERS	4,129,309	18.38%	759,005	18.23%	752,895	-0.15%	-6,110
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	1,878,068	22.02%	413,505	21.94%	412,058	-0.08%	-1,447
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	623,578	3.22%	20,070	3.24%	20,187	0.02%	117
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	2,817,621	3.19%	89,751	3.19%	89,871	0.00%	120
392.50	TRANSPORTATION EQUIPMENT - OTHER	7,799,346	8.11%	632,387	8.16%	636,406	0.05%	4,019

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Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
393.00	STORES EQUIPMENT	25,025	0.00%	0	0.00%	0	0.00%	0
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,302,473	4.49%	867,345	4.49%	866,444	0.00%	-901
395.00	LABORATORY EQUIPMENT	111,815	0.00%	0	0.00%	0	0.00%	0
396.00	POWER OPERATED EQUIPMENT	5,158,780	0.52%	27,026	0.52%	26,964	0.00%	-62
397.00	COMMUNICATION EQUIPMENT	44,874,261	9.39%	4,215,742	9.38%	4,209,917	-0.01%	-5,825
398.00	MISCELLANEOUS EQUIPMENT	71,228	2.23%	1,585	2.22%	1,583	-0.01%	-2
	Total General Plant	188,467,351	5.51%	10,379,736	5.51%	10,376,538	0.00%	-3,198
	Total Plant Studied - Penelec	**3,975,917,517**	**2.68%**	**106,498,868**	**2.18%**	**86,512,571**	**-0.50%**	**-19,986,297**
	PENNSYLVANIA POWER COMPANY							
	Intangible Plant							
303.00	SOFTWARE - OTHER	17,000,775		1,365,769	0.00%	1,365,769	0.00%	0
303.10	SMART METER SOFTWARE	7,487,475		83,353	0.00%	83,353	0.00%	0
303.70	SOFTWARE - CLOUD	128,200		25,610	0.00%	25,610	0.00%	0
	Total Intangible Plant	24,616,450	5.99%	1,474,732	5.99%	1,474,732	0.00%	0
	Distribution Plant							
361.10	STRUCTURES AND IMPROVEMENTS	3,578,263	1.43%	51,145	1.38%	49,229	-0.05%	-1,916
361.11	STRUCTURES - SUBTRANS	790,187	0.66%	5,230	0.84%	6,604	0.18%	1,374
361.20	STRUCTURES - CLEARING AND GRADING	454,298	1.17%	5,306	1.11%	5,027	-0.06%	-279
361.21	STRUCTURES - CLEARING AND GRADING - SUBTRANS	195,216	0.96%	1,882	0.90%	1,750	-0.06%	-132
362.00	STATION EQUIPMENT	119,414,216	2.66%	3,181,803	1.82%	2,170,552	-0.84%	-1,011,251
362.10	STATION EQUIPMENT - SUBTRANS	8,596,050	1.39%	119,629	1.25%	107,645	-0.14%	-11,984
364.00	POLES, TOWERS AND FIXTURES	147,023,829	1.68%	2,465,624	1.32%	1,943,109	-0.36%	-522,515
364.10	TOWERS AND FIXTURES - SUBTRANS	7,576	0.07%	5	0.06%	4	-0.01%	-1
364.20	POLES AND FIXTURES - SUBTRANS	20,931,895	2.85%	597,235	1.65%	344,375	-1.20%	-252,860
365.00	OH CONDUCTORS AND DEVICES	202,127,171	2.28%	4,598,977	1.52%	3,073,410	-0.76%	-1,525,567

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365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	3,332,630	1.84%	61,435	1.38%	45,900	-0.46%	-15,535
365.10	OH CONDUCTORS - CLEARING AND GRADING	78,494,769	1.98%	1,557,736	1.42%	1,112,940	-0.56%	-444,796
366.00	UG CONDUIT	8,232,923	1.43%	117,378	1.24%	102,261	-0.19%	-15,117
366.10	UG CONDUIT - SUBTRANS	64,654	0.31%	198	0.28%	180	-0.03%	-18
367.00	UG CONDUCTORS AND DEVICES	103,860,236	2.31%	2,397,223	1.94%	2,013,395	-0.37%	-383,828
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	108,081	1.85%	2,002	1.75%	1,887	-0.10%	-115
368.00	LINE TRANSFORMERS	143,404,700	2.90%	4,153,666	2.22%	3,189,622	-0.68%	-964,044
369.00	SERVICES	48,923,822	1.27%	618,950	1.33%	648,802	0.06%	29,852
370.10	METERS - SMART GRID	53,498,207	7.45%	3,987,573	6.47%	3,461,230	-0.98%	-526,343
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	4,092,193	1.75%	71,796	1.91%	78,059	0.16%	6,263
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	3,888,154	6.22%	241,986	4.79%	186,215	-1.43%	-55,771
373.20	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	24,978	7.27%	1,817	6.22%	1,555	-1.05%	-263
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	5,262,433	5.75%	302,587	4.68%	246,106	-1.07%	-56,481
	Total Distribution Plant	956,306,479	2.57%	24,541,183	1.96%	18,789,856	-0.60%	-5,751,327
	General Plant							
390.10	STRUCTURES AND IMPROVEMENTS	9,371,060	1.91%	179,295	1.92%	179,562	0.01%	267
390.20	STRUCTURES - CLEARING AND GRADING	41,241	1.99%	820	1.99%	820	0.00%	0
391.10	OFFICE FURNITURE AND EQUIPMENT	40,139	5.87%	2,357	5.88%	2,359	0.01%	2
391.20	OFFICE FURNITURE - DATA PROCESSING EQUIP	614,859	13.47%	82,823	13.38%	82,273	-0.09%	-550
391.25	OFFICE FURNITURE - PROCESSING EQUIP SMART GRID	1,316,157	17.84%	234,833	18.06%	237,655	0.22%	2,822
392.00	TRANSPORTATION EQUIPMENT	1,809,102	8.05%	145,661	8.02%	145,017	-0.03%	-644
393.00	STORES EQUIPMENT	26,718	0.36%	96	0.36%	96	0.00%	0
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	3,938,478	4.15%	163,590	4.16%	163,645	0.01%	55
395.00	LABORATORY EQUIPMENT	21,540	5.77%	1,243	5.77%	1,243	0.00%	0
396.00	POWER OPERATED EQUIPMENT	1,391,715	4.75%	66,162	4.76%	66,281	0.01%	119
397.00	COMMUNICATION EQUIPMENT	10,580,277	8.57%	906,814	8.53%	902,112	-0.04%	-4,702
398.00	MISCELLANEOUS EQUIPMENT	7,595	0.00%	0	0.00%	0	0.00%	0
	Total General Plant	29,158,880	6.12%	1,783,694	6.11%	1,781,065	-0.01%	-2,629
	Total Plant Studied - Penn Power	**1,010,081,809**	**2.75%**	**27,799,609**	**2.18%**	**22,045,653**	**-0.57%**	**-5,753,956**

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Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
	WEST PENN POWER COMPANY							
	Intangible Plant							
303.10	SOFTWARE - 7 YEAR LIFE	63,586,108		7,798,621	0.00%	7,798,621	0.00%	0
303.20	SOFTWARE - 10 YEAR LIFE	60,260,238		0	0.00%	0	0.00%	0
303.30	SOFTWARE - CLOUD	451,723		90,355	0.00%	90,355	0.00%	0
	Total Intangible Plant	124,298,069	6.35%	7,888,976	6.35%	7,888,976	0.00%	0
	Distribution Plant							
360.20	LAND RIGHTS	10,877,053	1.65%	179,331	1.40%	151,862	-0.25%	-27,469
361.00	STRUCTURES AND IMPROVEMENTS	24,234,956	1.32%	319,686	1.23%	297,864	-0.09%	-21,822
362.10	STATION EQUIPMENT	415,056,899	1.66%	6,896,590	1.36%	5,637,001	-0.30%	-1,259,589
362.15	STATION EQUIPMENT - SUBTRANS	18,897,056	1.45%	274,215	1.20%	226,279	-0.25%	-47,936
362.40	STATION EQUIPMENT - SCADA	4,897,085	0.58%	28,518	0.73%	35,641	0.15%	7,123
364.00	POLES, TOWERS AND FIXTURES	499,104,444	1.68%	8,381,933	1.32%	6,599,217	-0.36%	-1,782,716
364.55	POLES AND FIXTURES - SUBTRANS	73,660,720	1.32%	968,644	1.18%	866,347	-0.14%	-102,297
365.10	OH CONDUCTORS AND DEVICES	596,080,999	2.46%	14,668,477	1.65%	9,838,423	-0.81%	-4,830,054
365.15	OH CONDUCTORS AND DEVICES - SUBTRANS	57,488,342	1.86%	1,071,918	1.47%	846,070	-0.39%	-225,848
365.20	OH CONDUCTORS - CLEARING AND DAMAGES	325,378,538	1.43%	4,655,729	1.33%	4,332,644	-0.10%	-323,085
365.25	OH CONDUCTORS - CLEARING - SUBTRANS	24,960,133	1.38%	345,037	1.30%	324,362	-0.08%	-20,675
366.00	UG CONDUIT	24,641,325	1.73%	425,886	1.52%	375,569	-0.21%	-50,317
366.50	UG CONDUIT - SUBTRANS	11,035	1.80%	199	1.57%	173	-0.23%	-26
367.00	UG CONDUCTORS AND DEVICES	247,872,800	2.03%	5,029,093	1.71%	4,235,707	-0.32%	-793,386
367.50	UG CONDUCTORS AND DEVICES - SUBTRANS	13,620,058	1.70%	231,403	1.48%	201,561	-0.22%	-29,842
368.00	LINE TRANSFORMERS	518,416,734	2.36%	12,215,288	1.86%	9,660,256	-0.50%	-2,555,032
369.00	SERVICES	147,727,859	1.75%	2,578,175	1.57%	2,320,360	-0.18%	-257,815
370.30	METERS - SMART GRID	214,336,261	7.43%	15,926,247	6.38%	13,680,869	-1.05%	-2,245,378
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	9,987,325	2.07%	207,157	1.95%	194,616	-0.12%	-12,541
372.00	LEASED PROPERTY	296,619	0.79%	2,345	0.70%	2,091	-0.09%	-254
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	27,182,641	5.90%	1,604,136	3.98%	1,080,579	-1.92%	-523,557

Detailed Rate Comparison - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	26,320,421	6.99%	1,841,095	5.58%	1,469,859	-1.41%	-371,236
	Total Distribution Plant	3,281,049,303	2.37%	77,851,102	1.90%	62,377,349	-0.47%	-15,473,753
	General Plant							
389.20	LAND RIGHTS	293,153	1.36%	3,975	1.35%	3,972	-0.01%	-3
390.10	STRUCTURES AND IMPROVEMENTS							
	ARNOLD SERVICE CENTER	3,558,667	7.82%	278,462	7.84%	278,900	0.02%	438
	BOYCE SERVICE CENTER	2,167,493	3.68%	79,767	3.67%	79,651	-0.01%	-116
	BUTLER SERVICE CENTER	3,006,897	5.69%	171,214	5.68%	170,749	-0.01%	-465
	CHARLEROI SERVICE CENTER	4,892,376	3.01%	147,393	3.00%	146,734	-0.01%	-659
	CLARION SERVICE CENTER AND POLE YARD	1,754,808	3.65%	63,997	3.65%	64,110	0.00%	113
	CONNELLSVILLE CONFERENCE CENTER	2,806,195	2.75%	77,178	2.76%	77,388	0.01%	210
	CONNELLSVILLE HAZARDOUS MATERIAL	706,428	2.92%	20,661	2.92%	20,637	0.00%	-24
	CONNELLSVILLE METER LAB AND STOREHOUSE	828,706	0.01%	75	0.01%	75	0.00%	0
	CONNELLSVILLE COVERED STORAGE AND OFFICE	12,052,051	4.57%	551,255	4.57%	550,618	0.00%	-637
	CONNELLSVILLE QUONSET STOREHOUSE	193,295	0.00%	0	0.00%	0	0.00%	0
	CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	2,169,792	3.82%	82,890	3.81%	82,699	-0.01%	-191
	CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	527,203	0.00%	0	0.00%	0	0.00%	0
	CONNELLSVILLE GARAGE	4,104,512	3.13%	128,364	3.12%	128,044	-0.01%	-320
	CONNELLSVILLE WEST SIDE COMPLEX	2,128,076	1.54%	32,843	1.55%	32,890	0.01%	47
	DUNBAR STORAGE FACILITY	2,682,456	4.64%	124,596	4.65%	124,622	0.01%	26
	JEANETTE SERVICE CENTER	8,127,361	2.43%	197,799	2.43%	197,336	0.00%	-463
	JEANETTE SERVICE CENTER GARAGE	921,620	2.73%	25,123	2.73%	25,132	0.00%	9
	JEFFERSON SERVICE CENTER	2,287,324	4.07%	93,011	4.03%	92,199	-0.04%	-812
	KITTANNING SERVICE CENTER	3,869,062	2.28%	88,290	2.28%	88,381	0.00%	91
	KITTANNING SERVICE CENTER GARAGE	745,933	2.17%	16,183	2.17%	16,162	0.00%	-21
	LATROBE SERVICE CENTER	4,805,647	8.57%	412,051	8.62%	414,424	0.05%	2,373
	MCCONNELLSBURG SERVICE CENTER	1,472,017	3.87%	56,914	3.87%	57,027	0.00%	113
	PLEASANT VALLEY SERVICE CENTER	3,263,966	4.34%	141,652	4.33%	141,457	-0.01%	-195
	ST. MARYS SERVICE CENTER	4,339,296	2.85%	123,683	2.85%	123,886	0.00%	203
	ST. MARYS SERVICE CENTER GARAGE	1,785,129	3.33%	59,391	3.32%	59,259	-0.01%	-132
	STATE COLLEGE SERVICE CENTER GARAGE	1,961,300	2.82%	55,328	2.83%	55,487	0.01%	159

Detailed Rate Comparison - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Company Position Rate	[2] Company Position Annual Accrual	[3] OCA Position Rate	[3] OCA Position Annual Accrual	[4] OCA Adjustment Rate	[4] OCA Adjustment Annual Accrual
	WASHINGTON SERVICE CENTER	12,628,099	10.89%	1,375,064	10.86%	1,371,593	-0.03%	-3,471
	WAYNESBORO SERVICE CENTER	3,395,224	3.02%	102,581	3.03%	102,748	0.01%	167
	WAYNESBORO SERVICE CENTER GARAGE	962,920	2.80%	26,993	2.80%	26,991	0.00%	-2
	GREENSBURG	25,690,279	2.99%	767,635	2.99%	767,635	0.00%	0
	MINOR STRUCTURES	10,976,943	3.01%	330,726	3.01%	330,681	0.00%	-45
	TOTAL ACCOUNT 390.10	130,811,075	4.30%	5,631,119	4.30%	5,627,514	0.00%	-3,605
391.10	OFFICE FURNITURE - FURNITURE	3,247,989	5.53%	179,483	5.54%	179,818	0.01%	335
391.20	OFFICE FURNITURE - INFORMATION SYSTEMS	10,913,916	14.91%	1,626,877	15.04%	1,641,387	0.13%	14,510
391.30	OFFICE FURNITURE - DATA HANDLING EQUIPMENT	10,960	0.00%	0	0.00%	0	0.00%	0
391.50	OFFICE FURNITURE - SMART METERS HARDWARE	4,981,431	19.18%	955,231	19.13%	952,887	-0.05%	-2,344
392.10	TRANSPORTATION EQUIP - AUTOS	9,115,232	11.60%	1,057,591	11.61%	1,058,572	0.01%	981
392.20	TRANSPORTATION EQUIP - LIGHT TRUCKS	1,386,702	6.78%	93,990	6.84%	94,826	0.06%	836
392.30	TRANSPORTATION EQUIP - MEDIUM AND HEAVY TRUCKS	805,638	9.84%	79,297	9.70%	78,173	-0.14%	-1,124
392.40	TRANSPORTATION EQUIP - TRAILERS	438,040	1.98%	8,678	1.98%	8,693	0.00%	15
392.60	TRANSPORTATION EQUIP - ALL TERRAIN VEHICLES	200,859	2.18%	4,377	2.21%	4,430	0.03%	53
393.00	STORES EQUIPMENT	219,466	3.90%	8,561	3.93%	8,616	0.03%	55
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20,381,144	6.46%	1,316,745	6.45%	1,314,157	-0.01%	-2,588
395.00	LABORATORY EQUIPMENT	384,080	3.17%	12,187	3.17%	12,162	0.00%	-25
396.00	POWER OPERATED EQUIPMENT	265,470	1.52%	4,036	1.52%	4,036	0.00%	0
397.00	COMMUNICATION EQUIPMENT	37,820,908	7.95%	3,005,641	7.94%	3,003,742	-0.01%	-1,899
398.00	MISCELLANEOUS EQUIPMENT	11,270	0.00%	0	0.00%	0	0.00%	0
	Total General Plant	221,287,336	6.32%	13,987,788	6.32%	13,992,986	0.00%	5,198
	Total Plant Studied - WPP	**3,626,634,708**	**2.75%**	**99,727,866**	**2.32%**	**84,259,311**	**-0.43%**	**-15,468,555**
	TOTAL PLANT STUDIED	**12,199,903,454**	**2.71%**	**331,055,933**	**2.20%**	**268,482,276**	**-0.51%**	**-62,573,657**

[1], [2] From Company depreciation study

[3] From depreciation rate development exhibit

Detailed Rate Comparison - 2025

		[1]	[2]		[3]		[4]	
			Company Position		OCA Position		OCA Adjustment	
Account No.	Description	Plant 12/31/2025	Rate	Annual Accrual	Rate	Annual Accrual	Rate	Annual Accrual

[4] = [3] - [2]

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
					METROPOLITAN EDISON COMPANY						
	Intangible Plant										
303.00	SOFTWARE - OTHER	70,656,331	SQ	7	0%	70,656,331	49,676,306	20,980,025		4,795,431	
303.10	SOFTWARE - CLOUD	438,641	SQ	5	0%	438,641	134,115	304,526		87,630	
303.30	SOFTWARE - PROJECT ENTERPRISE	621,985	SQ	7	0%	621,985	621,985	0		0	
303.60	SOFTWARE - PROJECT EVOLUTION	8,047,879	SQ	7	0%	8,047,879	8,047,879	0		0	
303.90	SMART METER SOFTWARE	23,896,722	SQ	7	0%	23,896,722	23,506,101	390,621		116,518	
	Total Intangible Plant	103,661,558			0%	103,661,558	81,986,386	21,675,172	4.34	4,999,579	**4.82%**
	Distribution Plant										
360.20	LAND RIGHTS	28,932,719	R4	80	0%	28,932,719	18,078,094	10,854,625	39.62	273,968	**0.95%**
361.00	STRUCTURES AND IMPROVEMENTS	17,763,919	R3	70	0%	17,763,919	7,814,254	9,949,665	43.72	227,577	**1.28%**
361.10	STRUCTURES - SUBTRANS	339,223	R3	70	0%	339,223	56,378	282,845	61.94	4,566	**1.35%**
361.20	STRUCTURES - SUBTRANS (ROADS AND TRAILS)	11,908	R3	75	0%	11,908	8,894	3,014	30.53	99	**0.83%**
362.00	STATION EQUIPMENT	337,332,581	R2	60	0%	337,332,581	109,010,679	228,321,902	43.38	5,263,299	**1.56%**
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,919,660	R2	60	0%	11,919,660	1,573,989	10,345,671	52.60	196,686	**1.65%**
364.00	POLES, TOWERS AND FIXTURES	600,994,841	R1.5	65	0%	600,994,841	162,996,031	437,998,810	50.23	8,719,865	**1.45%**
364.10	POLES, TOWERS AND FIXTURES - SUBTRANS	36,126	R4	80	0%	36,126	29,595	6,531	24.81	263	**0.73%**
364.11	POLES, TOWERS AND FIXTURES - SUBTRANS	3,234,422	R1.5	65	0%	3,234,422	890,663	2,343,759	53.03	44,197	**1.37%**
365.00	OH CONDUCTORS AND DEVICES	761,125,689	O1	60	0%	761,125,689	105,244,351	655,881,338	53.50	12,259,464	**1.61%**
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	1,345,785	O1	60	0%	1,345,785	515,117	830,668	46.80	17,749	**1.32%**
365.10	OH CONDUCTORS - CLEARING AND ROW	229,365,878	R4	70	0%	229,365,878	48,838,786	180,527,092	56.08	3,219,099	**1.40%**
365.11	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	429,030	R4	70	0%	429,030	363,234	65,796	37.48	1,756	**0.41%**
366.00	UG CONDUIT	35,459,380	R1.5	65	0%	35,459,380	16,707,495	18,751,885	39.68	472,578	**1.33%**
367.00	UG CONDUCTORS AND DEVICES	346,055,799	R2	50	0%	346,055,799	114,029,986	232,025,813	36.80	6,305,049	**1.82%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,536,544	R2	50	0%	1,536,544	413,287	1,123,257	39.64	28,336	**1.84%**
368.00	LINE TRANSFORMERS	521,455,413	R1.5	43	0%	521,455,413	209,585,789	311,869,624	28.83	10,817,538	**2.07%**
369.00	OVERHEAD SERVICES	97,428,589	R1	44	0%	97,428,589	35,935,400	61,493,189	30.12	2,041,607	**2.10%**
369.10	UNDERGROUND SERVICES	104,045,959	R3	60	0%	104,045,959	64,860,308	39,185,651	31.51	1,243,594	**1.20%**
370.10	METERS - SMART GRID	150,001,444	S2	15	0%	150,001,444	60,856,874	89,144,570	8.76	10,176,321	**6.78%**
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	4,173,138	R0.5	37	0%	4,173,138	2,688,698	1,484,440	22.95	64,681	**1.55%**
371.21	INSTALLATIONS - METER SOCKET DEVICES	412,208	R2.5	25	0%	412,208	395,351	16,857	4.60	3,665	**0.89%**
371.23	INSTALLATIONS - SURGE SUPPRESSION	276,708	S2.5	20	0%	276,708	276,708	0			
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	16,749,801	R1	28	0%	16,749,801	5,815,837	10,933,964	19.33	565,647	**3.38%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	4,081,239	S0	20	0%	4,081,239	852,610	3,228,629	16.10	200,536	**4.91%**
	Total Distribution Plant	3,274,508,003			0%	3,274,508,003	967,838,408	2,306,669,595	37.12	62,148,141	**1.90%**
	General Plant										

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
389.20	TRANSPORTATION EQUIPMENT	18,078	R2	70	0%	18,078	16,379	1,699	25.40	67	**0.37%**
390.10	STRUCTURES AND IMPROVEMENTS										
	MISCELLANEOUS IMPROVEMENTS - MINOR	46,759,877	R1.5	40	0%	46,759,877	11,948,267	34,811,610	22.80	1,526,825	**3.27%**
	CORPORATE HEADQUARTERS - READING	64,119,551	R2	65	0%	64,119,551	36,015,937	28,103,614	14.40	1,951,640	**3.04%**
	LEBANON SERVICE CENTER	7,363,967	R2	65	0%	7,363,967	3,545,040	3,818,927	18.30	208,685	**2.83%**
	EASTON SERVICE CENTER	7,191,589	R2	65	0%	7,191,589	4,570,399	2,621,190	7.30	359,067	**4.99%**
	YORK SERVICE CENTER	12,697,226	R2	65	0%	12,697,226	7,321,543	5,375,683	8.30	647,673	**5.10%**
	TOTAL ACCOUNT 390.10	138,132,209			0%	138,132,209	63,401,186	74,731,023	15.92	4,693,889	**3.40%**
390.20	STRUCTURES - CLEARING AND GRADING										
	MISCELLANEOUS IMPROVEMENTS - MINOR	4,081,930	R1.5	40	0%	4,081,930	3,098,551	983,379	14.70	66,897	**1.64%**
	CORPORATE HEADQUARTERS - READING	5,067,693	R4	65	0%	5,067,693	3,383,476	1,684,217	14.90	113,035	**2.23%**
	LEBANON SERVICE CENTER	997,792	R4	65	0%	997,792	783,063	214,729	16.30	13,174	**1.32%**
	EASTON SERVICE CENTER	1,331,356	R4	65	0%	1,331,356	1,119,985	211,371	7.40	28,564	**2.15%**
	YORK SERVICE CENTER	1,783,426	R4	65	0%	1,783,426	1,533,495	249,931	8.30	30,112	**1.69%**
	TOTAL ACCOUNT 390.20	13,262,197			0%	13,262,197	9,918,570	3,343,627	13.28	251,781	**1.90%**
391.00	OFFICE FURNITURE - FURNITURE	1,179,090	SQ	20	0%	1,179,090	643,502	535,588	9.50	56,378	**4.78%**
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	1,457,337	SQ	5	0%	1,457,337	902,339	554,998	2.10	264,285	**18.13%**
391.50	OFFICE FURNITURE - DATA PROCESSING SMART METERS	4,541,673	SQ	5	0%	4,541,673	1,204,326	3,337,347	3.60	927,041	**20.41%**
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	5,349,897	R4	12	0%	5,349,897	2,479,602	2,870,295	6.50	441,584	**8.25%**
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	661,804	S1.5	34	0%	661,804	588,665	73,139	10.40	7,033	**1.06%**
392.50	TRANSPORTATION EQUIPMENT - VAN TRAILERS	87,237	S2.5	25	0%	87,237	86,086	1,151	4.10	281	**0.32%**
393.00	STORES EQUIPMENT	38,112	SQ	25	0%	38,112	27,258	10,854	12.00	904	**2.37%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	13,705,567	SQ	25	0%	13,705,567	4,449,257	9,256,310	17.10	541,305	**3.95%**
395.00	LABORATORY EQUIPMENT	85,698	SQ	20	0%	85,698	85,698	0			
396.00	POWER OPERATED EQUIPMENT	1,248,544	R0.5	33	0%	1,248,544	708,797	539,747	18.30	29,494	**2.36%**
397.00	COMMUNICATION EQUIPMENT	29,265,610	SQ	25	0%	29,265,610	5,576,951	23,688,659	18.20	1,301,575	**4.45%**
398.00	MISCELLANEOUS EQUIPMENT	66,807	SQ	20	0%	66,807	57,527	9,280	6.60	1,406	**2.10%**
	Total General Plant	209,099,859			0%	209,099,859	90,146,143	118,953,716	13.97	8,517,021	**4.07%**
	Total Plant Studied - MetEd	**3,587,269,420**			**0%**	**3,587,269,420**	**1,139,970,937**	**2,447,298,483**	**32.34**	**75,664,741**	**2.11%**

PENNSYLVANIA ELECTRIC COMPANY

	Intangible Plant										
303.00	SOFTWARE - OTHER	77,582,654	SQ	7	0%	77,582,654	51,284,487	26,298,167		6,808,908	
303.30	SOFTWARE - PROJECT EVOLUTION	9,079,604	SQ	7	0%	9,079,604	9,079,604	0		0	
303.60	SMART METER SOFTWARE	27,390,874	SQ	7	0%	27,390,874	26,372,715	1,018,160		156,640	
303.70	SOFTWARE - CLOUD	442,650	SQ	5	0%	442,650	131,340	311,310		89,670	

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	Total Intangible Plant	114,495,783			0%	114,495,783	86,868,146	27,627,636	3.92	7,055,218	**6.16%**
	Distribution Plant										
360.20	LAND RIGHTS	15,602,749	R3	75	0%	15,602,749	11,415,523	4,187,226	30.56	137,017	**0.88%**
361.00	STRUCTURES AND IMPROVEMENTS	18,498,132	R2.5	65	0%	18,498,132	10,002,671	8,495,462	37.52	226,425	**1.22%**
361.10	STRUCTURES - SUBTRANS	427,196	R2.5	65	0%	427,196	232,180	195,016	51.18	3,810	**0.89%**
362.00	STATION EQUIPMENT	415,488,814	R1.5	62	0%	415,488,814	128,774,726	286,714,087	46.64	6,147,386	**1.48%**
362.10	STATION EQUIPMENT - SUBTRANS	11,560,420	R1.5	62	0%	11,560,420	199,377	11,361,043	55.07	206,302	**1.78%**
364.00	POLES, TOWERS AND FIXTURES	744,328,808	R3	65	0%	744,328,808	230,836,459	513,492,349	46.31	11,088,153	**1.49%**
364.20	POLES AND FIXTURES - SUBTRANSMISSION	535,896	R3	65	0%	535,896	-78,242	614,138	56.86	10,801	**2.02%**
365.00	OH CONDUCTORS AND DEVICES	1,000,095,153	R0.5	60	0%	1,000,095,153	214,058,380	786,036,772	49.07	16,018,683	**1.60%**
365.10	OH CONDUCTORS - CLEARING AND ROW	283,177,860	R4	75	0%	283,177,860	53,752,522	229,425,338	62.26	3,684,956	**1.30%**
365.20	OVERHEAD CONDUCTORS - SUBTRANS	750,194	R0.5	60	0%	750,194	116,364	633,830	53.15	11,925	**1.59%**
365.30	OH CONDUCTORS - CLEARING AND ROW - SUBTRANS	37,157	R4	75	0%	37,157	14,765	22,392	63.24	354	**0.95%**
366.00	UG CONDUIT	46,814,591	R2	65	0%	46,814,591	21,198,390	25,616,201	40.61	630,786	**1.35%**
367.00	UG CONDUCTORS AND DEVICES	259,422,027	R2.5	44	0%	259,422,027	90,678,917	168,743,110	30.23	5,581,975	**2.15%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	1,286,184	R2.5	44	0%	1,286,184	176,037	1,110,147	38.84	28,583	**2.22%**
368.00	LINE TRANSFORMERS	499,072,584	R1	44	0%	499,072,584	186,893,312	312,179,273	31.23	9,996,134	**2.00%**
369.00	OVERHEAD SERVICES	96,010,506	R1	60	0%	96,010,506	30,984,293	65,026,213	44.37	1,465,545	**1.53%**
369.10	UNDERGROUND SERVICES	48,077,318	R1	60	0%	48,077,318	32,816,762	15,260,557	37.16	410,672	**0.85%**
370.10	METERS - SMART GRID	151,072,817	S2	15	0%	151,072,817	64,783,252	86,289,565	8.37	10,309,386	**6.82%**
371.00	INSTALLATIONS - DUSK TO DAWN LIGHTS	28,306,985	R0.5	30	0%	28,306,985	22,807,503	5,499,483	14.08	390,588	**1.38%**
371.21	INSTALLATIONS - METER SOCKET DEVICES	223,738	R2.5	25	0%	223,738	213,193	10,546	4.61	2,288	**1.02%**
371.23	INSTALLATIONS - SURGE SUPPRESSION	147,697	S3	20	0%	147,697	147,697	0	0.00		
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	196,313	R3	40	0%	196,313	193,716	2,597	10.15	256	**0.13%**
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	40,123,986	R1	20	0%	40,123,986	9,847,921	30,276,065	13.65	2,218,027	**5.53%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	11,697,257	R1	20	0%	11,697,257	3,141,942	8,555,315	16.75	510,765	**4.37%**
	Total Distribution Plant	3,672,954,383			0%	3,672,954,383	1,113,207,658	2,559,746,725	37.05	69,080,815	**1.88%**
	General Plant										
389.20	LAND RIGHTS	20,957	R3	70	0%	20,957	212,239	-191,283			
390.10	STRUCTURES AND IMPROVEMENTS										
	MISCELLANEOUS IMPROVEMENTS - MINOR	50,750,356	S0	45	0%	50,750,356	14,342,265	36,408,091	25.00	1,456,324	**2.87%**
	RICHLAND OPERATING CENTER	9,970,307	S0	80	0%	9,970,307	6,252,286	3,718,021	10.90	341,103	**3.42%**
	ERIE OPERATING CENTER	18,791,499	S0	80	0%	18,791,499	8,682,456	10,109,043	12.80	789,769	**4.20%**
	ALTOONA OPERATING CENTER	12,755,018	S0	80	0%	12,755,018	7,113,789	5,641,229	11.90	474,053	**3.72%**
	TOTAL ACCOUNT 390.10	92,267,180			0%	92,267,180	36,390,796	55,876,384	18.25	3,061,248	**3.32%**
390.20	MISCELLANEOUS IMPROVEMENTS	7,098,844	R0.5	40	0%	7,098,844	5,477,815	1,621,029	18.60	87,152	**1.23%**
391.00	OFFICE FURNITURE - FURNITURE	344,061	SQ	20	0%	344,061	253,223	90,839	12.80	7,097	**2.06%**

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
391.20	OFFICE FURNITURE - OFFICE MACHINES	1,944,806	SQ	10	0%	1,944,806	0	1,944,806	9.50	204,716	**10.53%**
391.25	OFFICE FURNITURE - DATA PROCESSING SMART METERS	4,129,309	SQ	5	0%	4,129,309	1,720,044	2,409,265	3.20	752,895	**18.23%**
391.30	OFFICE FURNITURE - PERSONAL COMPUTERS	1,878,068	SQ	5	0%	1,878,068	1,012,747	865,321	2.10	412,058	**21.94%**
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	623,578	L3	13	0%	623,578	552,924	70,653	3.50	20,187	**3.24%**
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	2,817,621	L2	30	0%	2,817,621	1,909,925	907,696	10.10	89,871	**3.19%**
392.50	TRANSPORTATION EQUIPMENT - OTHER	7,799,346	L3	10	0%	7,799,346	3,917,267	3,882,078	6.10	636,406	**8.16%**
393.00	STORES EQUIPMENT	25,025	SQ	25	0%	25,025	25,025	0	0.00		
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,302,473	SQ	25	0%	19,302,473	7,172,260	12,130,213	14.00	866,444	**4.49%**
395.00	LABORATORY EQUIPMENT	111,815	SQ	20	0%	111,815	111,815	0	0.00		
396.00	POWER OPERATED EQUIPMENT	5,158,780	SQ	35	0%	5,158,780	4,719,273	439,508	16.30	26,964	**0.52%**
397.00	COMMUNICATION EQUIPMENT	44,874,261	SQ	15	0%	44,874,261	8,668,976	36,205,285	8.60	4,209,917	**9.38%**
398.00	MISCELLANEOUS EQUIPMENT	71,228	SQ	20	0%	71,228	53,968	17,259	10.90	1,583	**2.22%**
	Total General Plant	188,467,351			0%	188,467,351	72,198,298	116,269,053	11.20	10,376,538	**5.51%**
	Total Plant Studied - Penelec	**3,975,917,517**			**0%**	**3,975,917,517**	**1,272,274,102**	**2,703,643,415**	**31.25**	**86,512,571**	**2.18%**
	PENNSYLVANIA POWER COMPANY										
	Intangible Plant										
303.00	SOFTWARE - OTHER	17,000,775	SQ	7	0%	17,000,775	11,702,496	5,298,279		1,365,769	
303.10	SMART METER SOFTWARE	7,487,475	SQ	7	0%	7,487,475	6,973,338	514,137		83,353	
303.70	SOFTWARE - CLOUD	128,200	SQ	5	0%	128,200	39,348	88,852		25,610	
	Total Intangible Plant	24,616,450			0%	24,616,450	18,715,182	5,901,268	4.00	1,474,732	**5.99%**
	Distribution Plant										
361.10	STRUCTURES AND IMPROVEMENTS	3,578,263	R4	70	0%	3,578,263	849,492	2,728,771	55.43	49,229	**1.38%**
361.11	STRUCTURES - SUBTRANS	790,187	R4	70	0%	790,187	594,830	195,357	29.58	6,604	**0.84%**
361.20	STRUCTURES - CLEARING AND GRADING	454,298	R4	70	0%	454,298	251,276	203,022	40.39	5,027	**1.11%**
361.21	STRUCTURES - CLEARING AND GRADING - SUBTRANS	195,216	R4	70	0%	195,216	136,606	58,610	33.49	1,750	**0.90%**
362.00	STATION EQUIPMENT	119,414,216	R1	52	0%	119,414,216	25,581,266	93,832,950	43.23	2,170,552	**1.82%**
362.10	STATION EQUIPMENT - SUBTRANS	8,596,050	R1	52	0%	8,596,050	5,212,764	3,383,286	31.43	107,645	**1.25%**
364.00	POLES, TOWERS AND FIXTURES	147,023,829	R1.5	65	0%	147,023,829	51,733,778	95,290,050	49.04	1,943,109	**1.32%**
364.10	TOWERS AND FIXTURES - SUBTRANS	7,576	R4	75	0%	7,576	7,534	42	9.47	4	**0.06%**
364.20	POLES AND FIXTURES - SUBTRANS	20,931,895	R1.5	65	0%	20,931,895	-984,152	21,916,047	63.64	344,375	**1.65%**
365.00	OH CONDUCTORS AND DEVICES	202,127,171	R1	65	0%	202,127,171	32,321,279	169,805,892	55.25	3,073,410	**1.52%**
365.01	OH CONDUCTORS AND DEVICES - SUBTRANS	3,332,630	R1	65	0%	3,332,630	1,050,045	2,282,585	49.73	45,900	**1.38%**
365.10	OH CONDUCTORS - CLEARING AND GRADING	78,494,769	R1	64	0%	78,494,769	16,648,682	61,846,087	55.57	1,112,940	**1.42%**
366.00	UG CONDUIT	8,232,923	R2.5	70	0%	8,232,923	3,445,086	4,787,837	46.82	102,261	**1.24%**
366.10	UG CONDUIT - SUBTRANS	64,654	R2.5	70	0%	64,654	59,857	4,797	26.67	180	**0.28%**

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
367.00	UG CONDUCTORS AND DEVICES	103,860,236	R2.5	50	0%	103,860,236	30,673,317	73,186,920	36.35	2,013,395	**1.94%**
367.10	UG CONDUCTORS AND DEVICES - SUBTRANS	108,081	R2.5	50	0%	108,081	52,998	55,084	29.19	1,887	**1.75%**
368.00	LINE TRANSFORMERS	143,404,700	R1.5	43	0%	143,404,700	45,547,101	97,857,599	30.68	3,189,622	**2.22%**
369.00	SERVICES	48,923,822	R4	60	0%	48,923,822	24,619,705	24,304,117	37.46	648,802	**1.33%**
370.10	METERS - SMART GRID	53,498,207	S2	15	0%	53,498,207	27,262,085	26,236,122	7.58	3,461,230	**6.47%**
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	4,092,193	R2	33	0%	4,092,193	3,071,178	1,021,015	13.08	78,059	**1.91%**
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	3,888,154	R2	20	0%	3,888,154	1,985,039	1,903,115	10.22	186,215	**4.79%**
373.20	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	24,978	R2	20	0%	24,978	9,993	14,985	9.64	1,555	**6.22%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	5,262,433	R2	20	0%	5,262,433	1,607,757	3,654,675	14.85	246,106	**4.68%**
	Total Distribution Plant	956,306,479			0%	956,306,479	271,737,514	684,568,966	36.43	18,789,856	**1.96%**
	General Plant										
390.10	STRUCTURES AND IMPROVEMENTS	9,371,060	R2	55	0%	9,371,060	3,643,042	5,728,018	31.90	179,562	**1.92%**
390.20	STRUCTURES - CLEARING AND GRADING	41,241	R2	55	0%	41,241	14,165	27,076	33.00	820	**1.99%**
391.10	OFFICE FURNITURE AND EQUIPMENT	40,139	SQ	20	0%	40,139	10,417	29,722	12.60	2,359	**5.88%**
391.20	OFFICE FURNITURE - DATA PROCESSING EQUIP	614,859	SQ	5	0%	614,859	400,950	213,909	2.60	82,273	**13.38%**
391.25	OFFICE FURNITURE - PROCESSING EQUIP SMART GRID	1,316,157	SQ	5	0%	1,316,157	603,191	712,966	3.00	237,655	**18.06%**
392.00	TRANSPORTATION EQUIPMENT	1,809,102	L2	10	0%	1,809,102	968,002	841,101	5.80	145,017	**8.02%**
393.00	STORES EQUIPMENT	26,718	SQ	30	0%	26,718	26,622	96	1.00	96	**0.36%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	3,938,478	SQ	25	0%	3,938,478	992,872	2,945,606	18.00	163,645	**4.16%**
395.00	LABORATORY EQUIPMENT	21,540	SQ	20	0%	21,540	18,432	3,108	2.50	1,243	**5.77%**
396.00	POWER OPERATED EQUIPMENT	1,391,715	S2	20	0%	1,391,715	523,428	868,287	13.10	66,281	**4.76%**
397.00	COMMUNICATION EQUIPMENT	10,580,277	SQ	15	0%	10,580,277	2,641,687	7,938,590	8.80	902,112	**8.53%**
398.00	MISCELLANEOUS EQUIPMENT	7,595	SQ	20	0%	7,595	7,595	0			
	Total General Plant	29,158,880			0%	29,158,880	9,850,402	19,308,478	10.84	1,781,065	**6.11%**
	Total Plant Studied - Penn Power	**1,010,081,809**			**0%**	**1,010,081,809**	**300,303,098**	**709,778,712**	**32.20**	**22,045,653**	**2.18%**

WEST PENN POWER COMPANY

	Intangible Plant										
303.10	SOFTWARE - 7 YEAR LIFE	63,586,108	SQ	7	0%	63,586,108	43,287,002	20,299,105		7,798,621	
303.20	SOFTWARE - 10 YEAR LIFE	60,260,238	SQ	10	0%	60,260,238	62,576,758	-2,316,520		0	
303.30	SOFTWARE - CLOUD	451,723	SQ	5	0%	451,723	138,208	313,516		90,355	
	Total Intangible Plant	124,298,069			0%	124,298,069	106,001,968	18,296,101	2.32	7,888,976	**6.35%**
	Distribution Plant										

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
360.20	LAND RIGHTS	10,877,053	R4	75	0%	10,877,053	5,285,511	5,591,542	36.82	151,862	**1.40%**
361.00	STRUCTURES AND IMPROVEMENTS	24,234,956	R3	70	0%	24,234,956	12,052,308	12,182,648	40.90	297,864	**1.23%**
362.10	STATION EQUIPMENT	415,056,899	R1.5	60	0%	415,056,899	180,163,068	234,893,831	41.67	5,637,001	**1.36%**
362.15	STATION EQUIPMENT - SUBTRANS	18,897,056	R1.5	60	0%	18,897,056	10,092,553	8,804,503	38.91	226,279	**1.20%**
362.40	STATION EQUIPMENT - SCADA	4,897,085	R2.5	35	0%	4,897,085	4,451,926	445,159	12.49	35,641	**0.73%**
364.00	POLES, TOWERS AND FIXTURES	499,104,444	R2	70	0%	499,104,444	129,944,241	369,160,203	55.94	6,599,217	**1.32%**
364.55	POLES AND FIXTURES - SUBTRANS	73,660,720	R2	70	0%	73,660,720	37,464,722	36,195,998	41.78	866,347	**1.18%**
365.10	OH CONDUCTORS AND DEVICES	596,080,999	R1	60	0%	596,080,999	104,553,369	491,527,630	49.96	9,838,423	**1.65%**
365.15	OH CONDUCTORS AND DEVICES - SUBTRANS	57,488,342	R1	60	0%	57,488,342	24,466,224	33,022,118	39.03	846,070	**1.47%**
365.20	OH CONDUCTORS - CLEARING AND DAMAGES	325,378,538	R4	75	0%	325,378,538	52,595,295	272,783,242	62.96	4,332,644	**1.33%**
365.25	OH CONDUCTORS - CLEARING - SUBTRANS	24,960,133	R4	75	0%	24,960,133	5,057,292	19,902,842	61.36	324,362	**1.30%**
366.00	UG CONDUIT	24,641,325	R3	65	0%	24,641,325	9,299,330	15,341,995	40.85	375,569	**1.52%**
366.50	UG CONDUIT - SUBTRANS	11,035	R3	65	0%	11,035	1,183	9,853	57.05	173	**1.57%**
367.00	UG CONDUCTORS AND DEVICES	247,872,800	R2.5	55	0%	247,872,800	67,431,689	180,441,112	42.60	4,235,707	**1.71%**
367.50	UG CONDUCTORS AND DEVICES - SUBTRANS	13,620,058	R2.5	55	0%	13,620,058	6,410,225	7,209,833	35.77	201,561	**1.48%**
368.00	LINE TRANSFORMERS	518,416,734	R1.5	48	0%	518,416,734	196,440,402	321,976,331	33.33	9,660,256	**1.86%**
369.00	SERVICES	147,727,859	R2.5	55	0%	147,727,859	64,310,908	83,416,951	35.95	2,320,360	**1.57%**
370.30	METERS - SMART GRID	214,336,261	S2	15	0%	214,336,261	93,670,996	120,665,265	8.82	13,680,869	**6.38%**
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	9,987,325	R1.5	32	0%	9,987,325	6,462,835	3,524,491	18.11	194,616	**1.95%**
372.00	LEASED PROPERTY	296,619	R1.5	30	0%	296,619	275,942	20,676	9.89	2,091	**0.70%**
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	27,182,641	L0	25	0%	27,182,641	7,948,343	19,234,298	17.80	1,080,579	**3.98%**
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	26,320,421	R2	20	0%	26,320,421	4,301,927	22,018,494	14.98	1,469,859	**5.58%**
	Total Distribution Plant	3,281,049,303			0%	3,281,049,303	1,022,680,290	2,258,369,013	36.20	62,377,349	**1.90%**
	General Plant										
389.20	LAND RIGHTS	293,153	R4	75	0%	293,153	146,990	146,163	36.80	3,972	**1.35%**
390.10	STRUCTURES AND IMPROVEMENTS										
	ARNOLD SERVICE CENTER	3,558,667	S0.5	55	0%	3,558,667	2,052,607	1,506,060	5.40	278,900	**7.84%**
	BOYCE SERVICE CENTER	2,167,493	S0.5	55	0%	2,167,493	821,395	1,346,097	16.90	79,651	**3.67%**
	BUTLER SERVICE CENTER	3,006,897	S0.5	55	0%	3,006,897	1,436,011	1,570,886	9.20	170,749	**5.68%**
	CHARLEROI SERVICE CENTER	4,892,376	S0.5	55	0%	4,892,376	3,292,974	1,599,401	10.90	146,734	**3.00%**
	CLARION SERVICE CENTER AND POLE YARD	1,754,808	S0.5	55	0%	1,754,808	632,876	1,121,932	17.50	64,110	**3.65%**
	CONNELLSVILLE CONFERENCE CENTER	2,806,195	S0.5	55	0%	2,806,195	1,537,027	1,269,168	16.40	77,388	**2.76%**
	CONNELLSVILLE HAZARDOUS MATERIAL	706,428	S0.5	55	0%	706,428	359,733	346,694	16.80	20,637	**2.92%**
	CONNELLSVILLE METER LAB AND STOREHOUSE	828,706	S0.5	55	0%	828,706	827,520	1,187	15.80	75	**0.01%**
	CONNELLSVILLE COVERED STORAGE AND OFFICE	12,052,051	S0.5	55	0%	12,052,051	3,187,098	8,864,953	16.10	550,618	**4.57%**
	CONNELLSVILLE QUONSET STOREHOUSE	193,295	S0.5	55	0%	193,295	193,295	0			
	CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	2,169,792	S0.5	55	0%	2,169,792	1,193,941	975,852	11.80	82,699	**3.81%**
	CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	527,203	S0.5	55	0%	527,203	527,203	0			
	CONNELLSVILLE GARAGE	4,104,512	S0.5	55	0%	4,104,512	1,863,750	2,240,763	17.50	128,044	**3.12%**
	CONNELLSVILLE WEST SIDE COMPLEX	2,128,076	S0.5	55	0%	2,128,076	1,772,865	355,211	10.80	32,890	**1.55%**

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate
	DUNBAR STORAGE FACILITY	2,682,456	S0.5	55	0%	2,682,456	1,685,476	996,980	8.00	124,622	**4.65%**
	JEANETTE SERVICE CENTER	8,127,361	S0.5	55	0%	8,127,361	4,239,844	3,887,517	19.70	197,336	**2.43%**
	JEANETTE SERVICE CENTER GARAGE	921,620	S0.5	55	0%	921,620	501,922	419,698	16.70	25,132	**2.73%**
	JEFFERSON SERVICE CENTER	2,287,324	S0.5	55	0%	2,287,324	1,789,451	497,874	5.40	92,199	**4.03%**
	KITTANNING SERVICE CENTER	3,869,062	S0.5	55	0%	3,869,062	2,251,681	1,617,381	18.30	88,381	**2.28%**
	KITTANNING SERVICE CENTER GARAGE	745,933	S0.5	55	0%	745,933	485,725	260,209	16.10	16,162	**2.17%**
	LATROBE SERVICE CENTER	4,805,647	S0.5	55	0%	4,805,647	1,780,349	3,025,298	7.30	414,424	**8.62%**
	MCCONNELLSBURG SERVICE CENTER	1,472,017	S0.5	55	0%	1,472,017	531,064	940,953	16.50	57,027	**3.87%**
	PLEASANT VALLEY SERVICE CENTER	3,263,966	S0.5	55	0%	3,263,966	2,104,022	1,159,944	8.20	141,457	**4.33%**
	ST. MARYS SERVICE CENTER	4,339,296	S0.5	55	0%	4,339,296	1,960,690	2,378,606	19.20	123,886	**2.85%**
	ST. MARYS SERVICE CENTER GARAGE	1,785,129	S0.5	55	0%	1,785,129	688,846	1,096,283	18.50	59,259	**3.32%**
	STATE COLLEGE SERVICE CENTER GARAGE	1,961,300	S0.5	55	0%	1,961,300	1,001,383	959,917	17.30	55,487	**2.83%**
	WASHINGTON SERVICE CENTER	12,628,099	S0.5	55	0%	12,628,099	2,478,310	10,149,789	7.40	1,371,593	**10.86%**
	WAYNESBORO SERVICE CENTER	3,395,224	S0.5	55	0%	3,395,224	1,494,385	1,900,839	18.50	102,748	**3.03%**
	WAYNESBORO SERVICE CENTER GARAGE	962,920	S0.5	55	0%	962,920	495,982	466,938	17.30	26,991	**2.80%**
	GREENSBURG	25,690,279	S0.5	55	0%	25,690,279	51,274	25,639,006	33.40	767,635	**2.99%**
	MINOR STRUCTURES	10,976,943	S0.5	55	0%	10,976,943	957,298	10,019,645	30.30	330,681	**3.01%**
	TOTAL ACCOUNT 390.10	130,811,075			0%	130,811,075	44,195,993	86,615,082	15.39	5,627,514	**4.30%**
391.10	OFFICE FURNITURE - FURNITURE	3,247,989	SQ	16	0%	3,247,989	2,438,810	809,179	4.50	179,818	**5.54%**
391.20	OFFICE FURNITURE - INFORMATION SYSTEMS	10,913,916	SQ	7	0%	10,913,916	4,184,231	6,729,686	4.10	1,641,387	**15.04%**
391.30	OFFICE FURNITURE - DATA HANDLING EQUIPMENT	10,960	SQ	16	0%	10,960	10,960	0			
391.50	OFFICE FURNITURE - SMART METERS HARDWARE	4,981,431	SQ	5	0%	4,981,431	1,646,326	3,335,105	3.50	952,887	**19.13%**
392.10	TRANSPORTATION EQUIP - AUTOS	9,115,232	S2	8	0%	9,115,232	5,198,515	3,916,717	3.70	1,058,572	**11.61%**
392.20	TRANSPORTATION EQUIP - LIGHT TRUCKS	1,386,702	S1	12	0%	1,386,702	1,083,257	303,445	3.20	94,826	**6.84%**
392.30	TRANSPORTATION EQUIP - MEDIUM AND HEAVY TRUCKS	805,638	L3	12	0%	805,638	555,485	250,153	3.20	78,173	**9.70%**
392.40	TRANSPORTATION EQUIP - TRAILERS	438,040	S1	24	0%	438,040	333,719	104,321	12.00	8,693	**1.98%**
392.60	TRANSPORTATION EQUIP - ALL TERRAIN VEHICLES	200,859	S2.5	11	0%	200,859	191,555	9,304	2.10	4,430	**2.21%**
393.00	STORES EQUIPMENT	219,466	SQ	25	0%	219,466	181,557	37,909	4.40	8,616	**3.93%**
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20,381,144	SQ	15	0%	20,381,144	10,130,718	10,250,426	7.80	1,314,157	**6.45%**
395.00	LABORATORY EQUIPMENT	384,080	SQ	23	0%	384,080	326,919	57,161	4.70	12,162	**3.17%**
396.00	POWER OPERATED EQUIPMENT	265,470	S0.5	20	0%	265,470	229,952	35,518	8.80	4,036	**1.52%**
397.00	COMMUNICATION EQUIPMENT	37,820,908	SQ	12	0%	37,820,908	19,197,706	18,623,203	6.20	3,003,742	**7.94%**
398.00	MISCELLANEOUS EQUIPMENT	11,270	SQ	14	0%	11,270	11,270	0			
	Total General Plant	221,287,336			0%	221,287,336	90,063,965	131,223,371	9.38	13,992,986	**6.32%**
	Total Plant Studied - WPP	**3,626,634,708**			**0%**	**3,626,634,708**	**1,218,746,223**	**2,407,888,484**	**28.58**	**84,259,311**	**2.32%**
	TOTAL PLANT STUDIED	**12,199,903,454**			**0%**	**12,199,903,454**	**3,931,294,360**	**8,268,609,094**	**30.80**	**268,482,276**	**2.20%**

Depreciation Rate Development - 2025

Account No.	Description	[1] Plant 12/31/2025	[2] Iowa Curve Type	[2] Iowa Curve AL	[3] Net Salvage	[4] Depreciable Base	[5] Book Reserve	[6] Future Accruals	[7] Remaining Life	[8] Total Accrual	[9] Total Rate

[1] From Company depreciation study
[2] Average life and Iowa curve shape selected through statistical analysis and professional judgment
[3] Net salvage rate selected through statistical analysis and professional judgment
[4] = [1]*(1-[3])
[5] From depreciation study
[6] = [4] - [5]
[7] Composite remaining life based on Iowa cuve in [2]; see remaining life exhibit for detailed calculations
[8] = [6] / [7]; some unadjusted figures hard coded to match company's proposed figures
[9] = [8] / [1]; some unadjusted figures hard coded to match company's proposed figures

Met-Ed Account 362 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R2-60**	**OCA R1.5-68**	**Company SSD**	**OCA SSD**
0.0	564,021,988	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	553,169,827	99.99%	99.92%	99.87%	0.0000	0.0000
1.5	537,798,992	99.94%	99.76%	99.61%	0.0000	0.0000
2.5	519,427,282	99.90%	99.58%	99.33%	0.0000	0.0000
3.5	497,407,589	99.81%	99.40%	99.05%	0.0000	0.0001
4.5	485,486,569	99.65%	99.20%	98.77%	0.0000	0.0001
5.5	463,983,116	98.92%	99.00%	98.47%	0.0000	0.0000
6.5	445,032,317	98.82%	98.78%	98.17%	0.0000	0.0000
7.5	427,052,644	98.56%	98.56%	97.86%	0.0000	0.0000
8.5	406,602,302	98.33%	98.32%	97.53%	0.0000	0.0001
9.5	367,582,772	98.15%	98.06%	97.21%	0.0000	0.0001
10.5	346,646,726	97.91%	97.80%	96.87%	0.0000	0.0001
11.5	319,731,766	97.63%	97.52%	96.52%	0.0000	0.0001
12.5	312,334,031	97.38%	97.22%	96.16%	0.0000	0.0001
13.5	294,480,699	97.16%	96.92%	95.80%	0.0000	0.0002
14.5	285,552,685	96.75%	96.59%	95.42%	0.0000	0.0002
15.5	274,906,049	96.14%	96.25%	95.04%	0.0000	0.0001
16.5	263,431,043	95.74%	95.90%	94.65%	0.0000	0.0001
17.5	253,730,524	95.36%	95.52%	94.24%	0.0000	0.0001
18.5	243,195,845	94.88%	95.13%	93.83%	0.0000	0.0001
19.5	236,457,879	94.16%	94.72%	93.40%	0.0000	0.0001
20.5	226,617,762	93.47%	94.29%	92.97%	0.0001	0.0000
21.5	219,571,808	92.52%	93.84%	92.52%	0.0002	0.0000
22.5	210,610,906	92.14%	93.37%	92.06%	0.0002	0.0000
23.5	202,768,247	91.44%	92.88%	91.60%	0.0002	0.0000
24.5	197,738,567	90.63%	92.37%	91.12%	0.0003	0.0000
25.5	188,085,205	90.37%	91.84%	90.62%	0.0002	0.0000
26.5	178,744,491	89.98%	91.28%	90.12%	0.0002	0.0000
27.5	174,332,328	89.23%	90.69%	89.60%	0.0002	0.0000
28.5	165,059,335	88.31%	90.09%	89.07%	0.0003	0.0001
29.5	161,104,954	87.94%	89.45%	88.53%	0.0002	0.0000
30.5	153,429,238	87.43%	88.79%	87.97%	0.0002	0.0000
31.5	139,067,799	86.18%	88.10%	87.39%	0.0004	0.0001
32.5	129,187,652	85.80%	87.39%	86.81%	0.0003	0.0001
33.5	119,072,492	85.49%	86.64%	86.20%	0.0001	0.0001
34.5	112,752,795	84.66%	85.87%	85.58%	0.0001	0.0001
35.5	108,112,614	83.66%	85.06%	84.95%	0.0002	0.0002
36.5	103,820,113	83.04%	84.22%	84.30%	0.0001	0.0002
37.5	98,953,330	81.93%	83.35%	83.63%	0.0002	0.0003
38.5	94,125,292	80.58%	82.45%	82.94%	0.0003	0.0006
39.5	89,008,990	79.54%	81.51%	82.24%	0.0004	0.0007
40.5	85,406,703	78.87%	80.54%	81.51%	0.0003	0.0007
41.5	73,790,271	77.85%	79.53%	80.77%	0.0003	0.0009
42.5	70,587,972	77.12%	78.48%	80.01%	0.0002	0.0008
43.5	69,422,478	76.49%	77.40%	79.23%	0.0001	0.0007
44.5	66,001,637	76.04%	76.28%	78.43%	0.0000	0.0006
45.5	62,732,571	75.09%	75.12%	77.61%	0.0000	0.0006

Met-Ed Account 362 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R2-60**	**OCA R1.5-68**	**Company SSD**	**OCA SSD**
46.5	58,361,584	74.26%	73.92%	76.76%	0.0000	0.0006
47.5	52,812,172	73.47%	72.69%	75.90%	0.0001	0.0006
48.5	49,567,246	72.32%	71.41%	75.02%	0.0001	0.0007
49.5	46,010,349	71.95%	70.10%	74.11%	0.0003	0.0005
50.5	43,299,330	71.47%	68.74%	73.18%	0.0007	0.0003
51.5	40,318,319	70.92%	67.35%	72.23%	0.0013	0.0002
52.5	36,365,851	70.30%	65.92%	71.26%	0.0019	0.0001
53.5	34,426,413	69.70%	64.45%	70.27%	0.0028	0.0000
54.5	30,321,629	69.32%	62.94%	69.25%	0.0041	0.0000
55.5	27,501,472	68.02%	61.39%	68.21%	0.0044	0.0000
56.5	23,803,363	67.25%	59.81%	67.15%	0.0055	0.0000
57.5	22,334,048	66.29%	58.20%	66.07%	0.0065	0.0000
58.5	21,323,919	65.29%	56.55%	64.97%	0.0076	0.0000
59.5	19,753,594	63.68%	54.87%	63.84%	0.0078	0.0000
60.5	18,595,159	62.48%	53.17%	62.69%	0.0087	0.0000
61.5	17,516,770	61.74%	51.43%	61.52%	0.0106	0.0000
62.5	16,205,045	60.99%	49.68%	60.34%	0.0128	0.0000
63.5	13,065,739	60.57%	47.90%	59.13%	0.0160	0.0002
64.5	12,185,750	60.29%	46.11%	57.90%	0.0201	0.0006
65.5	10,259,248	59.48%	44.30%	56.65%	0.0230	0.0008
66.5	8,364,259	58.98%	42.49%	55.39%	0.0272	0.0013
67.5	7,525,137	57.92%	40.66%	54.11%	0.0298	0.0015
68.5	6,616,822	57.44%	38.84%	52.81%	0.0346	0.0021
69.5	5,350,248	56.63%	37.02%	51.50%	0.0385	0.0026
70.5	4,356,252	56.36%	35.21%	50.17%	0.0447	0.0038
71.5	4,009,167	56.04%	33.41%	48.83%	0.0512	0.0052
72.5	3,218,150	55.93%	31.62%	47.49%	0.0591	0.0071
73.5	2,485,364	54.92%	29.86%	46.13%	0.0628	0.0077
74.5	1,894,992	54.89%	28.12%	44.76%	0.0716	0.0103
75.5	1,633,341	54.34%	26.42%	43.39%	0.0780	0.0120
76.5	1,330,779	54.23%	24.75%	42.02%	0.0869	0.0149
77.5	1,263,660	53.27%	23.12%	40.64%	0.0909	0.0160
78.5	1,240,772	53.10%	21.53%	39.26%	0.0996	0.0192
79.5	1,224,964	52.94%	20.00%	37.88%	0.1085	0.0227
80.5	1,133,721	52.41%	18.51%	36.51%	0.1149	0.0253
81.5	1,050,834	52.26%	17.07%	35.14%	0.1238	0.0293
82.5	847,460	51.83%	15.70%	33.78%	0.1305	0.0326
83.5	824,974	51.55%	14.38%	32.43%	0.1382	0.0365
84.5	818,028	51.44%	13.12%	31.09%	0.1468	0.0414
85.5	807,470	51.41%	11.93%	29.77%	0.1559	0.0468
86.5	759,399	51.25%	10.80%	28.46%	0.1637	0.0519
87.5	749,156	51.22%	9.73%	27.17%	0.1722	0.0578
88.5	726,722	51.14%	8.72%	25.90%	0.1799	0.0637
89.5	724,765	51.11%	7.78%	24.65%	0.1878	0.0700
90.5	698,345	50.75%	6.90%	23.43%	0.1923	0.0747
91.5	677,014	50.26%	6.08%	22.23%	0.1952	0.0786
92.5	606,796	50.21%	5.32%	21.05%	0.2015	0.0850

Met-Ed Account 362 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R2-60**	**OCA R1.5-68**	**Company SSD**	**OCA SSD**
93.5	577,256	50.12%	4.62%	19.91%	0.2070	0.0913
94.5	486,520	49.83%	3.98%	18.79%	0.2102	0.0964
95.5	446,839	49.79%	3.39%	17.70%	0.2153	0.1029
96.5	240,499	49.51%	2.86%	16.65%	0.2177	0.1080
97.5	200,163	49.48%	2.38%	15.63%	0.2219	0.1146
98.5	164,968	49.48%	1.95%	14.64%	0.2259	0.1214
99.5	124,119	49.48%	1.57%	13.68%	0.2296	0.1281
100.5	49,378	49.48%	1.24%	12.76%	0.2327	0.1348
101.5	44,458	49.38%	0.95%	11.87%	0.2346	0.1407
102.5	14,416	49.38%	0.71%	11.02%	0.2369	0.1471
103.5	12,780	49.38%	0.51%	10.21%	0.2388	0.1535
104.5	12,089	49.38%	0.35%	9.42%	0.2404	0.1597
105.5	10,712	49.38%	0.22%	8.68%	0.2416	0.1657
106.5	9,249	49.38%	0.13%	7.96%	0.2425	0.1715
107.5	9,172	49.38%	0.07%	7.29%	0.2432	0.1772
108.5	9,123	49.38%	0.03%	6.65%	0.2436	0.1826
109.5	8,463	49.38%	0.01%	6.04%	0.2437	0.1879
110.5	8,463	49.38%	0.00%	5.46%	0.2438	0.1929
111.5	8,430	49.38%	0.00%	4.92%	0.2438	0.1976
112.5	8,013	49.38%	0.00%	4.42%	0.2438	0.2021
113.5	5,813	49.38%	0.00%	3.95%	0.2438	0.2064
114.5	5,813	49.38%	0.00%	3.51%	0.2438	0.2104
115.5	5,813	49.38%	0.00%	3.11%	0.2438	0.2141
116.5	5,513	49.38%	0.00%	2.74%	0.2438	0.2175
117.5	4,079	49.38%	0.00%	2.40%	0.2438	0.2207
118.5	1,619	49.38%	0.00%	2.09%	0.2438	0.2236
119.5	1,619	49.38%	0.00%	1.81%	0.2438	0.2263
120.5	1,619	49.38%	0.00%	1.56%	0.2438	0.2287
121.5	1,619	49.38%	0.00%	1.34%	0.2438	0.2308
122.5	1,619	49.38%	0.00%	1.14%	0.2438	0.2327
123.5			0.00%	0.97%		
Sum of Squared Differences (SSD)				[8]	10.2215	6.0203
SSD - Truncated OLT Curve				[9]	0.2313	0.0181

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

[4] The Company's selected Iowa curve to be fitted to the OLT.

[5] My selected Iowa curve to be fitted to the OLT.

[6] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.

[7] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.

[8] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

Penelec Account 365 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R0.5-60**	**OCA R0.5-69**	**Company SSD**	**OCA SSD**
0.0	1,438,106,438	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	1,431,517,987	99.78%	99.68%	99.73%	0.0000	0.0000
1.5	1,396,815,141	99.16%	99.05%	99.17%	0.0000	0.0000
2.5	1,334,369,432	98.62%	98.41%	98.62%	0.0000	0.0000
3.5	1,266,243,598	98.02%	97.76%	98.06%	0.0000	0.0000
4.5	1,187,986,328	97.36%	97.11%	97.50%	0.0000	0.0000
5.5	1,117,230,888	96.60%	96.46%	96.93%	0.0000	0.0000
6.5	1,068,715,833	95.95%	95.80%	96.36%	0.0000	0.0000
7.5	1,010,142,700	95.25%	95.13%	95.78%	0.0000	0.0000
8.5	964,190,577	94.54%	94.46%	95.20%	0.0000	0.0000
9.5	920,022,675	93.83%	93.79%	94.62%	0.0000	0.0001
10.5	844,313,169	93.18%	93.10%	94.04%	0.0000	0.0001
11.5	811,421,646	92.48%	92.42%	93.45%	0.0000	0.0001
12.5	768,152,522	91.63%	91.73%	92.85%	0.0000	0.0001
13.5	713,588,150	90.68%	91.03%	92.25%	0.0000	0.0002
14.5	656,036,405	89.90%	90.33%	91.65%	0.0000	0.0003
15.5	591,383,429	89.31%	89.63%	91.05%	0.0000	0.0003
16.5	565,925,380	88.76%	88.92%	90.44%	0.0000	0.0003
17.5	521,113,597	88.16%	88.21%	89.83%	0.0000	0.0003
18.5	486,025,959	87.60%	87.49%	89.21%	0.0000	0.0003
19.5	468,989,299	87.03%	86.76%	88.59%	0.0000	0.0002
20.5	457,433,594	86.53%	86.03%	87.97%	0.0000	0.0002
21.5	447,849,849	86.08%	85.30%	87.35%	0.0001	0.0002
22.5	433,833,446	85.48%	84.56%	86.72%	0.0001	0.0002
23.5	418,350,475	84.98%	83.82%	86.08%	0.0001	0.0001
24.5	403,846,616	84.49%	83.07%	85.44%	0.0002	0.0001
25.5	388,591,452	83.96%	82.31%	84.80%	0.0003	0.0001
26.5	370,011,141	83.44%	81.55%	84.16%	0.0004	0.0001
27.5	353,525,343	82.93%	80.78%	83.51%	0.0005	0.0000
28.5	335,276,938	82.36%	80.01%	82.85%	0.0006	0.0000
29.5	318,039,310	81.86%	79.23%	82.20%	0.0007	0.0000
30.5	295,428,298	81.34%	78.44%	81.53%	0.0008	0.0000
31.5	285,139,823	80.84%	77.64%	80.87%	0.0010	0.0000
32.5	262,646,380	80.26%	76.84%	80.19%	0.0012	0.0000
33.5	248,198,849	79.76%	76.03%	79.52%	0.0014	0.0000
34.5	234,555,550	79.24%	75.21%	78.83%	0.0016	0.0000
35.5	222,576,656	78.75%	74.39%	78.14%	0.0019	0.0000
36.5	203,368,122	78.20%	73.55%	77.45%	0.0022	0.0001
37.5	190,194,396	77.64%	72.71%	76.75%	0.0024	0.0001
38.5	178,817,665	76.98%	71.86%	76.05%	0.0026	0.0001
39.5	167,811,688	76.38%	71.00%	75.34%	0.0029	0.0001
40.5	159,972,702	75.86%	70.13%	74.62%	0.0033	0.0002
41.5	151,747,209	75.36%	69.25%	73.90%	0.0037	0.0002
42.5	140,937,524	75.00%	68.36%	73.17%	0.0044	0.0003
43.5	135,938,696	74.62%	67.47%	72.43%	0.0051	0.0005
44.5	132,773,600	74.17%	66.56%	71.69%	0.0058	0.0006
45.5	132,834,759	73.72%	65.65%	70.94%	0.0065	0.0008

Penelec Account 365 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R0.5-60**	**OCA R0.5-69**	**Company SSD**	**OCA SSD**
46.5	129,105,400	73.31%	64.73%	70.18%	0.0074	0.0010
47.5	123,964,590	72.86%	63.80%	69.42%	0.0082	0.0012
48.5	112,270,855	72.49%	62.86%	68.65%	0.0093	0.0015
49.5	107,310,658	72.05%	61.91%	67.88%	0.0103	0.0017
50.5	90,009,574	71.65%	60.95%	67.10%	0.0115	0.0021
51.5	83,175,057	71.17%	59.98%	66.31%	0.0125	0.0024
52.5	77,029,860	70.67%	59.01%	65.51%	0.0136	0.0027
53.5	73,052,401	70.11%	58.02%	64.71%	0.0146	0.0029
54.5	69,055,549	69.73%	57.03%	63.90%	0.0161	0.0034
55.5	65,578,026	69.28%	56.03%	63.08%	0.0176	0.0038
56.5	62,465,318	68.89%	55.03%	62.26%	0.0192	0.0044
57.5	54,638,750	68.48%	54.01%	61.43%	0.0209	0.0050
58.5	48,572,679	68.05%	52.99%	60.59%	0.0227	0.0056
59.5	42,783,291	67.40%	51.96%	59.75%	0.0238	0.0059
60.5	37,051,451	66.83%	50.93%	58.90%	0.0253	0.0063
61.5	33,399,665	66.26%	49.89%	58.04%	0.0268	0.0067
62.5	30,145,489	65.80%	48.85%	57.18%	0.0287	0.0074
63.5	25,056,212	65.29%	47.80%	56.32%	0.0306	0.0081
64.5	21,592,374	64.73%	46.74%	55.44%	0.0324	0.0086
65.5	19,306,273	64.14%	45.69%	54.56%	0.0341	0.0092
66.5	17,827,526	63.67%	44.62%	53.68%	0.0363	0.0100
67.5	16,004,737	62.90%	43.56%	52.79%	0.0374	0.0102
68.5	13,968,839	62.48%	42.49%	51.90%	0.0399	0.0112
69.5	11,066,203	62.09%	41.43%	51.00%	0.0427	0.0123
70.5	9,844,725	61.60%	40.36%	50.09%	0.0451	0.0132
71.5	8,999,056	61.17%	39.29%	49.19%	0.0479	0.0144
72.5	8,201,287	60.76%	38.22%	48.28%	0.0508	0.0156
73.5	7,545,631	60.38%	37.15%	47.36%	0.0540	0.0169
74.5	5,352,600	60.09%	36.08%	46.44%	0.0576	0.0186
75.5	4,748,498	59.73%	35.02%	45.52%	0.0611	0.0202
76.5	4,105,607	59.34%	33.95%	44.60%	0.0645	0.0217
77.5	3,505,054	58.84%	32.89%	43.68%	0.0673	0.0230
78.5	3,228,121	58.37%	31.84%	42.75%	0.0704	0.0244
79.5	3,171,322	57.97%	30.79%	41.82%	0.0739	0.0261
80.5			29.75%	40.89%		
Sum of Squared Differences (SSD)				[8]	1.1842	0.3339
SSD - Truncated OLT Curve				[9]	0.5090	0.1162

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

[4] The Company's selected Iowa curve to be fitted to the OLT.

Penelec Account 365 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R0.5-60**	**OCA R0.5-69**	**Company SSD**	**OCA SSD**

[5] My selected Iowa curve to be fitted to the OLT.

[6] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.

[7] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.

[8] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

Penn Power Account 366 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R2.5-70**	**OCA R2.5-77**	**Company SSD**	**OCA SSD**
0.0	8,788,030	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	8,721,895	100.00%	99.96%	99.96%	0.0000	0.0000
1.5	8,118,786	99.88%	99.88%	99.89%	0.0000	0.0000
2.5	7,687,153	99.73%	99.79%	99.81%	0.0000	0.0000
3.5	8,178,594	99.60%	99.70%	99.73%	0.0000	0.0000
4.5	8,076,866	99.51%	99.60%	99.64%	0.0000	0.0000
5.5	8,159,309	99.34%	99.50%	99.55%	0.0000	0.0000
6.5	8,090,819	99.21%	99.39%	99.45%	0.0000	0.0000
7.5	7,915,625	99.05%	99.27%	99.35%	0.0000	0.0000
8.5	7,785,132	99.01%	99.15%	99.25%	0.0000	0.0000
9.5	7,587,476	98.90%	99.02%	99.13%	0.0000	0.0000
10.5	7,162,737	98.84%	98.88%	99.01%	0.0000	0.0000
11.5	7,071,812	98.79%	98.74%	98.89%	0.0000	0.0000
12.5	6,897,310	98.71%	98.58%	98.76%	0.0000	0.0000
13.5	6,746,102	98.59%	98.42%	98.62%	0.0000	0.0000
14.5	6,655,740	98.53%	98.25%	98.47%	0.0000	0.0000
15.5	6,465,499	97.53%	98.07%	98.32%	0.0000	0.0001
16.5	6,330,523	97.42%	97.87%	98.16%	0.0000	0.0001
17.5	6,128,262	97.38%	97.67%	97.99%	0.0000	0.0000
18.5	5,948,710	97.35%	97.46%	97.81%	0.0000	0.0000
19.5	5,752,074	97.28%	97.23%	97.62%	0.0000	0.0000
20.5	5,455,716	97.20%	97.00%	97.43%	0.0000	0.0000
21.5	5,322,128	97.16%	96.74%	97.22%	0.0000	0.0000
22.5	5,166,064	97.12%	96.48%	97.01%	0.0000	0.0000
23.5	5,002,369	97.05%	96.20%	96.78%	0.0001	0.0000
24.5	4,544,096	97.03%	95.91%	96.54%	0.0001	0.0000
25.5	4,038,719	96.96%	95.60%	96.29%	0.0002	0.0000
26.5	3,543,775	96.76%	95.28%	96.03%	0.0002	0.0001
27.5	2,660,798	96.10%	94.94%	95.76%	0.0001	0.0000
28.5	2,038,019	95.84%	94.58%	95.47%	0.0002	0.0000
29.5	1,512,822	95.62%	94.21%	95.17%	0.0002	0.0000
30.5	1,416,641	94.74%	93.81%	94.86%	0.0001	0.0000
31.5	1,311,725	93.27%	93.40%	94.53%	0.0000	0.0002
32.5	1,247,159	92.79%	92.97%	94.19%	0.0000	0.0002
33.5	1,185,452	92.56%	92.52%	93.83%	0.0000	0.0002
34.5	1,131,757	92.06%	92.04%	93.46%	0.0000	0.0002
35.5	1,079,706	91.76%	91.54%	93.07%	0.0000	0.0002
36.5	1,045,737	90.77%	91.03%	92.66%	0.0000	0.0004
37.5	992,711	90.73%	90.48%	92.24%	0.0000	0.0002
38.5	970,924	90.68%	89.92%	91.80%	0.0001	0.0001
39.5	952,915	90.59%	89.32%	91.33%	0.0002	0.0001
40.5	929,667	90.54%	88.70%	90.85%	0.0003	0.0000
41.5	896,845	90.35%	88.06%	90.36%	0.0005	0.0000
42.5	867,544	90.17%	87.38%	89.83%	0.0008	0.0000
43.5	847,469	89.96%	86.68%	89.29%	0.0011	0.0000
44.5	806,439	89.77%	85.94%	88.73%	0.0015	0.0001
45.5	770,369	89.59%	85.18%	88.15%	0.0019	0.0002

Penn Power Account 366 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R2.5-70**	**OCA R2.5-77**	**Company SSD**	**OCA SSD**
46.5	763,337	89.58%	84.39%	87.54%	0.0027	0.0004
47.5	733,224	89.31%	83.56%	86.90%	0.0033	0.0006
48.5	650,062	89.16%	82.69%	86.25%	0.0042	0.0008
49.5	469,065	88.79%	81.80%	85.57%	0.0049	0.0010
50.5	347,803	88.75%	80.86%	84.86%	0.0062	0.0015
51.5	326,750	88.75%	79.89%	84.13%	0.0078	0.0021
52.5	253,632	88.02%	78.89%	83.36%	0.0083	0.0022
53.5	153,825	87.79%	77.84%	82.57%	0.0099	0.0027
54.5	141,279	87.61%	76.75%	81.76%	0.0118	0.0034
55.5	129,055	87.58%	75.62%	80.91%	0.0143	0.0045
56.5	103,390	87.21%	74.45%	80.03%	0.0163	0.0052
57.5	94,766	87.02%	73.24%	79.12%	0.0190	0.0062
58.5	69,989	86.88%	71.98%	78.18%	0.0222	0.0076
59.5	69,989	86.88%	70.68%	77.20%	0.0262	0.0094
60.5	69,989	86.88%	69.33%	76.19%	0.0308	0.0114
61.5	69,947	86.82%	67.94%	75.15%	0.0356	0.0136
62.5	69,947	86.82%	66.50%	74.07%	0.0413	0.0163
63.5	68,826	85.46%	65.02%	72.95%	0.0418	0.0156
64.5	67,795	85.21%	63.50%	71.80%	0.0471	0.0180
65.5	65,334	85.18%	61.93%	70.62%	0.0541	0.0212
66.5	47,968	78.63%	60.32%	69.39%	0.0335	0.0085
67.5	46,729	78.63%	58.67%	68.13%	0.0398	0.0110
68.5	46,647	78.54%	56.98%	66.84%	0.0465	0.0137
69.5	47,276	78.53%	55.26%	65.50%	0.0542	0.0170
70.5	45,149	75.00%	53.50%	64.13%	0.0462	0.0118
71.5	45,132	74.97%	51.71%	62.72%	0.0541	0.0150
72.5	44,813	74.44%	49.89%	61.28%	0.0603	0.0173
73.5	44,745	74.32%	48.06%	59.80%	0.0690	0.0211
74.5	42,552	71.41%	46.20%	58.29%	0.0636	0.0172
75.5	42,155	71.41%	44.33%	56.75%	0.0733	0.0215
76.5	41,069	69.57%	42.45%	55.18%	0.0736	0.0207
77.5	40,861	69.22%	40.57%	53.58%	0.0821	0.0245
78.5	40,861	69.22%	38.69%	51.96%	0.0932	0.0298
79.5	36,763	62.28%	36.81%	50.31%	0.0648	0.0143
80.5	36,586	61.98%	34.96%	48.64%	0.0730	0.0178
81.5	35,961	61.62%	33.12%	46.96%	0.0812	0.0215
82.5	35,961	61.62%	31.31%	45.26%	0.0919	0.0268
83.5	19,828	61.62%	29.53%	43.56%	0.1030	0.0326
84.5	19,805	61.55%	27.78%	41.85%	0.1140	0.0388
85.5	19,218	60.06%	26.08%	40.14%	0.1155	0.0397
86.5	19,197	60.00%	24.42%	38.43%	0.1266	0.0465
87.5	18,262	56.88%	22.81%	36.73%	0.1161	0.0406
88.5	18,262	56.88%	21.26%	35.04%	0.1269	0.0477
89.5	18,262	56.88%	19.76%	33.37%	0.1378	0.0553
90.5	18,274	56.88%	18.32%	31.72%	0.1487	0.0633
91.5	18,274	56.88%	16.94%	30.09%	0.1595	0.0718
92.5	18,274	56.88%	15.63%	28.49%	0.1702	0.0806

Penn Power Account 366 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R2.5-70**	**OCA R2.5-77**	**Company SSD**	**OCA SSD**
93.5	17,137	56.88%	14.38%	26.92%	0.1806	0.0897
94.5	17,137	56.88%	13.19%	25.39%	0.1909	0.0991
95.5	17,137	56.88%	12.07%	23.90%	0.2008	0.1088
96.5	1,036	56.88%	11.01%	22.45%	0.2104	0.1185
97.5	1,036	56.88%	10.02%	21.05%	0.2196	0.1284
98.5	1,036	56.88%	9.08%	19.69%	0.2285	0.1383
99.5			8.21%	18.38%		
Sum of Squared Differences (SSD)				[8]	4.0650	1.6555
SSD - Truncated OLT Curve				[9]	0.1165	0.0331

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

[4] The Company's selected Iowa curve to be fitted to the OLT.

[5] My selected Iowa curve to be fitted to the OLT.

[6] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.

[7] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.

[8] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

West Penn Account 361 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R3-70**	**OCA R3-78**	**Company SSD**	**OCA SSD**
0.0	22,923,955	100.00%	100.00%	100.00%	0.0000	0.0000
0.5	23,000,252	100.00%	99.99%	99.99%	0.0000	0.0000
1.5	23,045,976	99.99%	99.97%	99.97%	0.0000	0.0000
2.5	22,492,505	99.99%	99.94%	99.95%	0.0000	0.0000
3.5	22,300,457	99.99%	99.91%	99.92%	0.0000	0.0000
4.5	21,965,551	99.94%	99.87%	99.89%	0.0000	0.0000
5.5	21,451,041	99.92%	99.84%	99.86%	0.0000	0.0000
6.5	21,123,436	99.90%	99.79%	99.82%	0.0000	0.0000
7.5	21,092,699	99.89%	99.75%	99.78%	0.0000	0.0000
8.5	20,408,712	99.34%	99.70%	99.74%	0.0000	0.0000
9.5	19,416,828	99.24%	99.64%	99.69%	0.0000	0.0000
10.5	19,283,907	99.21%	99.57%	99.64%	0.0000	0.0000
11.5	19,262,697	99.09%	99.50%	99.59%	0.0000	0.0000
12.5	19,271,289	99.06%	99.43%	99.53%	0.0000	0.0000
13.5	19,234,364	98.99%	99.34%	99.46%	0.0000	0.0000
14.5	19,137,711	98.16%	99.25%	99.39%	0.0001	0.0002
15.5	19,262,899	98.14%	99.15%	99.31%	0.0001	0.0001
16.5	19,242,684	98.03%	99.04%	99.22%	0.0001	0.0001
17.5	18,726,322	97.96%	98.92%	99.13%	0.0001	0.0001
18.5	17,812,161	97.93%	98.79%	99.03%	0.0001	0.0001
19.5	17,535,418	97.87%	98.65%	98.92%	0.0001	0.0001
20.5	16,053,170	97.83%	98.50%	98.80%	0.0000	0.0001
21.5	15,845,550	97.68%	98.33%	98.68%	0.0000	0.0001
22.5	16,009,744	97.59%	98.15%	98.54%	0.0000	0.0001
23.5	16,155,853	97.45%	97.96%	98.40%	0.0000	0.0001
24.5	15,524,641	97.32%	97.75%	98.24%	0.0000	0.0001
25.5	15,302,825	97.18%	97.53%	98.08%	0.0000	0.0001
26.5	15,348,207	97.02%	97.29%	97.90%	0.0000	0.0001
27.5	12,936,731	96.80%	97.03%	97.71%	0.0000	0.0001
28.5	12,588,495	96.61%	96.75%	97.51%	0.0000	0.0001
29.5	12,298,402	96.47%	96.46%	97.29%	0.0000	0.0001
30.5	11,368,294	96.39%	96.15%	97.06%	0.0000	0.0000
31.5	10,638,902	96.09%	95.81%	96.82%	0.0000	0.0001
32.5	9,996,345	95.96%	95.46%	96.56%	0.0000	0.0000
33.5	9,852,440	95.70%	95.08%	96.29%	0.0000	0.0000
34.5	8,873,141	95.38%	94.68%	96.00%	0.0000	0.0000
35.5	8,528,131	95.18%	94.25%	95.69%	0.0001	0.0000
36.5	7,807,102	95.08%	93.80%	95.36%	0.0002	0.0000
37.5	7,083,203	94.92%	93.32%	95.02%	0.0003	0.0000
38.5	6,242,441	94.72%	92.81%	94.65%	0.0004	0.0000
39.5	5,900,501	94.31%	92.27%	94.27%	0.0004	0.0000
40.5	5,507,001	94.27%	91.71%	93.87%	0.0007	0.0000
41.5	4,983,694	94.03%	91.11%	93.44%	0.0009	0.0000
42.5	4,627,015	93.72%	90.48%	92.99%	0.0011	0.0001
43.5	4,335,896	92.10%	89.82%	92.52%	0.0005	0.0000
44.5	3,998,247	91.08%	89.11%	92.03%	0.0004	0.0001
45.5	3,774,662	90.87%	88.38%	91.51%	0.0006	0.0000

West Penn Account 361 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R3-70**	**OCA R3-78**	**Company SSD**	**OCA SSD**
46.5	3,556,980	90.82%	87.60%	90.97%	0.0010	0.0000
47.5	3,465,173	90.60%	86.79%	90.40%	0.0015	0.0000
48.5	3,181,951	90.09%	85.93%	89.80%	0.0017	0.0000
49.5	2,701,836	89.53%	85.04%	89.17%	0.0020	0.0000
50.5	2,616,925	89.02%	84.09%	88.51%	0.0024	0.0000
51.5	2,533,951	88.89%	83.10%	87.83%	0.0033	0.0001
52.5	2,377,008	88.53%	82.07%	87.11%	0.0042	0.0002
53.5	2,170,921	88.14%	80.98%	86.36%	0.0051	0.0003
54.5	2,010,712	87.82%	79.84%	85.57%	0.0064	0.0005
55.5	1,831,027	87.47%	78.64%	84.75%	0.0078	0.0007
56.5	1,715,844	86.42%	77.39%	83.89%	0.0081	0.0006
57.5	1,593,589	85.79%	76.09%	83.00%	0.0094	0.0008
58.5	1,463,081	84.99%	74.72%	82.07%	0.0105	0.0009
59.5	1,340,409	84.19%	73.30%	81.09%	0.0118	0.0010
60.5	1,196,473	83.62%	71.82%	80.07%	0.0139	0.0013
61.5	1,100,379	81.59%	70.27%	79.02%	0.0128	0.0007
62.5	965,344	79.26%	68.67%	77.91%	0.0112	0.0002
63.5	930,094	78.43%	67.00%	76.76%	0.0131	0.0003
64.5	782,252	76.60%	65.27%	75.57%	0.0128	0.0001
65.5	633,814	73.70%	63.48%	74.33%	0.0104	0.0000
66.5	613,800	72.25%	61.64%	73.04%	0.0113	0.0001
67.5	580,144	70.97%	59.73%	71.70%	0.0126	0.0001
68.5	531,359	70.12%	57.77%	70.31%	0.0152	0.0000
69.5	466,023	70.03%	55.76%	68.88%	0.0204	0.0001
70.5	429,119	69.80%	53.71%	67.39%	0.0259	0.0006
71.5	410,687	69.58%	51.61%	65.85%	0.0323	0.0014
72.5	382,118	68.25%	49.48%	64.27%	0.0352	0.0016
73.5	338,417	67.80%	47.32%	62.64%	0.0420	0.0027
74.5	334,083	67.72%	45.13%	60.96%	0.0510	0.0046
75.5	334,160	67.72%	42.93%	59.23%	0.0614	0.0072
76.5	333,456	67.71%	40.72%	57.47%	0.0728	0.0105
77.5	332,310	67.64%	38.52%	55.66%	0.0848	0.0144
78.5	331,017	67.60%	36.32%	53.81%	0.0979	0.0190
79.5	315,136	64.48%	34.14%	51.94%	0.0921	0.0157
80.5	314,466	64.46%	31.98%	50.03%	0.1055	0.0208
81.5	312,718	64.34%	29.87%	48.10%	0.1188	0.0264
82.5	301,015	64.12%	27.79%	46.14%	0.1320	0.0323
83.5	299,235	63.96%	25.77%	44.17%	0.1458	0.0391
84.5	290,975	63.74%	23.81%	42.20%	0.1594	0.0464
85.5	289,852	63.66%	21.92%	40.21%	0.1743	0.0550
86.5	288,879	63.46%	20.10%	38.23%	0.1880	0.0636
87.5	270,033	60.40%	18.35%	36.26%	0.1768	0.0583
88.5	269,140	60.21%	16.70%	34.30%	0.1894	0.0671
89.5	266,430	60.10%	15.12%	32.37%	0.2023	0.0769
90.5	250,072	60.07%	13.64%	30.46%	0.2156	0.0877
91.5	163,326	59.31%	12.24%	28.58%	0.2215	0.0944
92.5	89,187	59.22%	10.94%	26.75%	0.2331	0.1054

West Penn Account 361 Curve Fitting

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Age (Years)	**Exposures (Dollars)**	**Observed Life Table (OLT)**	**Company R3-70**	**OCA R3-78**	**Company SSD**	**OCA SSD**
93.5	84,735	59.21%	9.73%	24.96%	0.2449	0.1173
94.5	67,681	59.21%	8.60%	23.22%	0.2562	0.1295
95.5	49,420	59.17%	7.57%	21.54%	0.2663	0.1416
96.5	47,693	59.17%	6.61%	19.91%	0.2762	0.1541
97.5	39,071	59.17%	5.74%	18.35%	0.2855	0.1666
98.5	36,916	59.17%	4.95%	16.86%	0.2940	0.1790
99.5	33,816	59.17%	4.23%	15.44%	0.3018	0.1913
100.5	33,816	59.17%	3.59%	14.08%	0.3089	0.2033
101.5	32,121	58.90%	3.01%	12.80%	0.3124	0.2125
102.5	22,426	58.72%	2.50%	11.60%	0.3161	0.2221
103.5	22,426	58.72%	2.04%	10.46%	0.3212	0.2329
104.5	22,426	58.72%	1.65%	9.40%	0.3257	0.2433
105.5	22,426	58.72%	1.31%	8.41%	0.3296	0.2531
106.5	22,426	58.72%	1.01%	7.49%	0.3330	0.2625
107.5	20,474	53.61%	0.77%	6.64%	0.2792	0.2207
108.5	20,448	53.61%	0.56%	5.85%	0.2814	0.2281
109.5	20,448	53.61%	0.40%	5.13%	0.2831	0.2351
110.5	12,617	53.61%	0.27%	4.46%	0.2845	0.2415
111.5	5,164	53.61%	0.18%	3.86%	0.2855	0.2475
112.5	5,164	53.61%	0.11%	3.31%	0.2863	0.2530
113.5	5,164	53.61%	0.06%	2.82%	0.2868	0.2580
114.5	5,164	53.61%	0.03%	2.37%	0.2871	0.2625
115.5	5,164	53.61%	0.01%	1.98%	0.2873	0.2666
116.5	5,164	53.61%	0.00%	1.63%	0.2874	0.2702
117.5	3,430	53.61%	0.00%	1.32%	0.2874	0.2734
118.5	3,430	53.61%	0.00%	1.05%	0.2874	0.2762
119.5	3,430	53.61%	0.00%	0.83%	0.2874	0.2786
120.5			0.00%	0.63%		
Sum of Squared Differences (SSD)				[8]	10.9563	6.8818
SSD - Truncated OLT Curve				[9]	2.6190	0.6615

[1] Age in years using half-year convention

[2] Dollars exposed to retirement at the beginning of each age interval

[3] Observed life table based on the Company's property records. These numbers form the original survivor curve.

[4] The Company's selected Iowa curve to be fitted to the OLT.

[5] My selected Iowa curve to be fitted to the OLT.

[6] = ([4] - [3])^2. This is the squared difference between each point on the Company's curve and the observed survivor curve.

[7] = ([5] - [3])^2. This is the squared difference between each point on my curve and the observed survivor curve.

[8] = Sum of squared differences. The smallest SSD represents the best mathematical fit.

FE 2023 Study - Metropolitan Edison
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 80 *Survivor Curve:* R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	618.12	80.00	7.73	5.73	44.28
1938	260,448.93	80.00	3,255.60	9.43	30,695.45
1939	16,059.98	80.00	200.75	9.81	1,968.35
1940	8,595.66	80.00	107.45	10.20	1,095.69
1941	14,690.00	80.00	183.62	10.61	1,947.64
1942	5,425.39	80.00	67.82	11.03	748.22
1943	2,530.64	80.00	31.63	11.48	363.05
1944	8,822.26	80.00	110.28	11.95	1,317.36
1945	23,756.40	80.00	296.95	12.43	3,691.27
1946	35,420.45	80.00	442.75	12.93	5,726.84
1947	38,497.06	80.00	481.21	13.46	6,476.32
1948	49,785.96	80.00	622.32	14.01	8,719.22
1949	62,555.36	80.00	781.94	14.58	11,398.00
1950	35,672.13	80.00	445.90	15.16	6,760.18
1951	79,710.23	80.00	996.37	15.76	15,705.21
1952	47,030.63	80.00	587.88	16.39	9,634.59
1953	51,763.45	80.00	647.04	17.02	11,015.06
1954	83,959.01	80.00	1,049.48	17.67	18,546.11
1955	64,444.39	80.00	805.55	18.33	14,766.48
1956	88,012.03	80.00	1,100.14	19.01	20,909.55
1957	92,106.57	80.00	1,151.33	19.69	22,664.83
1958	133,360.41	80.00	1,667.00	20.37	33,962.50
1959	128,173.89	80.00	1,602.17	21.07	33,755.89
1960	103,137.45	80.00	1,289.21	21.78	28,076.58
1961	261,443.45	80.00	3,268.03	22.49	73,504.51
1962	236,861.74	80.00	2,960.76	23.21	68,732.27
1963	249,922.94	80.00	3,124.02	23.95	74,806.22

FE 2023 Study - Metropolitan Edison
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 80 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1964	272,824.35	80.00	3,410.29	24.69	84,203.82
1965	309,639.49	80.00	3,870.47	25.44	98,472.64
1966	337,779.39	80.00	4,222.22	26.20	110,629.90
1967	343,696.86	80.00	4,296.19	26.97	115,870.87
1968	362,726.73	80.00	4,534.06	27.75	125,838.14
1969	406,658.99	80.00	5,083.21	28.54	145,088.68
1970	436,742.96	80.00	5,459.26	29.34	160,176.55
1971	509,237.56	80.00	6,365.44	30.15	191,897.55
1972	602,780.26	80.00	7,534.72	30.97	233,328.40
1973	673,834.77	80.00	8,422.89	31.79	267,786.84
1974	603,861.29	80.00	7,548.23	32.63	246,274.43
1975	478,231.36	80.00	5,977.86	33.47	200,073.68
1976	546,209.00	80.00	6,827.58	34.32	234,350.75
1977	585,072.88	80.00	7,313.38	35.18	257,314.72
1978	566,255.81	80.00	7,078.16	36.05	255,180.36
1979	499,559.01	80.00	6,244.46	36.93	230,588.52
1980	560,471.48	80.00	7,005.86	37.81	264,914.24
1981	482,643.87	80.00	6,033.02	38.70	233,502.06
1982	576,747.84	80.00	7,209.31	39.60	285,499.68
1983	746,951.68	80.00	9,336.85	40.51	378,193.79
1984	769,512.91	80.00	9,618.86	41.42	398,403.62
1985	868,911.28	80.00	10,861.34	42.34	459,829.01
1986	1,006,556.20	80.00	12,581.89	43.26	544,283.78
1987	1,039,189.12	80.00	12,989.80	44.19	573,989.69
1988	951,726.21	80.00	11,896.52	45.12	536,817.47
1989	857,602.96	80.00	10,719.98	46.06	493,797.64
1990	956,536.66	80.00	11,956.65	47.01	562,049.09

FE 2023 Study - Metropolitan Edison
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *80* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1991	995,460.94	80.00	12,443.20	47.96	596,720.77
1992	1,229,456.50	80.00	15,368.13	48.91	751,655.72
1993	1,673,949.27	80.00	20,924.26	49.87	1,043,430.36
1994	1,560,245.89	80.00	19,502.98	50.83	991,289.13
1995	1,224,781.79	80.00	15,309.70	51.79	792,912.50
1996	1,210,914.14	80.00	15,136.35	52.76	798,595.81
1997	846,746.34	80.00	10,584.28	53.73	568,699.98
1998	818,439.49	80.00	10,230.44	54.70	559,644.64
2003	251,094.57	80.00	3,138.67	59.61	187,083.22
2007	101,623.06	80.00	1,270.28	63.56	80,738.31
2009	235,206.67	80.00	2,940.07	65.54	192,702.71
2010	12,975.78	80.00	162.20	66.54	10,792.06
2011	237,058.88	80.00	2,963.22	67.53	200,109.57
Total	28,932,718.77	80.00	361,657.22	41.39	14,969,762.37

Composite Average Remaining Life ... 41.39 Years

FE 2023 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1900	6,649.92	0.00	0.00	0.00	0.00
1912	1,816.55	70.00	25.95	1.62	42.09
1922	38.82	70.00	0.55	4.11	2.28
1923	1,336.79	70.00	19.10	4.38	83.65
1924	2,728.95	70.00	38.98	4.62	180.21
1926	1,349.72	70.00	19.28	5.14	99.02
1927	3,117.19	70.00	44.53	5.40	240.43
1928	6,388.75	70.00	91.27	5.65	515.69
1929	5,511.83	70.00	78.74	5.91	465.53
1930	1,267.43	70.00	18.11	6.18	111.87
1931	2,898.93	70.00	41.41	6.43	266.21
1933	1,422.20	70.00	20.32	6.95	141.28
1935	514.20	70.00	7.35	7.49	55.04
1936	5.49	70.00	0.08	7.77	0.61
1937	4,494.55	70.00	64.21	8.06	517.50
1938	501,014.59	70.00	7,157.35	8.34	59,713.04
1939	1,969.24	70.00	28.13	8.64	243.12
1940	4,050.77	70.00	57.87	8.94	517.53
1941	21,977.11	70.00	313.96	9.26	2,906.66
1942	4,253.41	70.00	60.76	9.58	582.05
1943	103.69	70.00	1.48	9.91	14.68
1944	265.92	70.00	3.80	10.26	38.96
1945	4,131.52	70.00	59.02	10.61	626.18
1946	6,375.07	70.00	91.07	10.98	999.58
1947	15,657.98	70.00	223.69	11.35	2,539.52
1948	23,966.87	70.00	342.38	11.74	4,020.71
1949	35,464.70	70.00	506.64	12.15	6,153.89

FE 2023 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
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And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1950	40,437.71	70.00	577.68	12.56	7,256.95
1951	45,996.49	70.00	657.09	12.99	8,535.85
1952	29,847.06	70.00	426.39	13.43	5,728.18
1953	66,045.08	70.00	943.50	13.89	13,104.41
1954	49,093.60	70.00	701.34	14.36	10,071.43
1955	34,600.24	70.00	494.29	14.84	7,336.51
1956	63,950.06	70.00	913.57	15.34	14,014.96
1957	106,175.94	70.00	1,516.80	15.85	24,042.06
1958	56,691.40	70.00	809.88	16.37	13,259.64
1959	30,080.32	70.00	429.72	16.91	7,267.67
1960	42,473.84	70.00	606.77	17.46	10,595.04
1961	54,835.49	70.00	783.36	18.03	14,121.99
1962	75,058.70	70.00	1,072.27	18.60	19,946.77
1963	47,956.82	70.00	685.10	19.19	13,149.20
1964	46,251.13	70.00	660.73	19.79	13,078.26
1965	44,037.95	70.00	629.11	20.40	12,836.92
1966	65,906.76	70.00	941.53	21.03	19,803.17
1967	164,370.15	70.00	2,348.14	21.67	50,879.56
1968	143,923.81	70.00	2,056.05	22.32	45,887.51
1969	228,390.93	70.00	3,262.73	22.98	74,963.59
1970	160,104.36	70.00	2,287.20	23.65	54,085.08
1971	575,285.63	70.00	8,218.37	24.33	199,917.77
1972	545,783.09	70.00	7,796.90	25.01	195,027.52
1973	295,178.34	70.00	4,216.83	25.72	108,439.37
1974	131,713.69	70.00	1,881.62	26.42	49,718.81
1975	3,653.41	70.00	52.19	27.14	1,416.68
1976	25,263.50	70.00	360.91	27.87	10,058.51

FE 2023 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1977	14,534.92	70.00	207.64	28.61	5,940.16
1978	4,573.91	70.00	65.34	29.35	1,917.90
1979	68,159.53	70.00	973.71	30.10	29,311.99
1980	80,565.25	70.00	1,150.93	30.87	35,526.33
1981	24,651.79	70.00	352.17	31.64	11,141.12
1982	9,253.30	70.00	132.19	32.42	4,284.96
1983	202,790.39	70.00	2,897.01	33.20	96,179.62
1984	82,694.09	70.00	1,181.34	33.99	40,158.61
1985	183,870.65	70.00	2,626.72	34.79	91,394.42
1986	321,930.39	70.00	4,599.01	35.60	163,727.66
1987	266,765.60	70.00	3,810.94	36.42	138,787.14
1988	266,213.51	70.00	3,803.05	37.24	141,624.01
1989	614,322.01	70.00	8,776.03	38.07	334,110.48
1990	662,744.18	70.00	9,467.77	38.91	368,359.69
1991	294,558.55	70.00	4,207.98	39.75	167,272.56
1992	422,115.70	70.00	6,030.22	40.60	244,833.72
1993	1,308,921.18	70.00	18,698.87	41.46	775,194.99
1994	160,899.25	70.00	2,298.56	42.32	97,279.58
1995	595,789.68	70.00	8,511.28	43.19	367,609.52
1996	38,184.77	70.00	545.50	44.07	24,039.08
1998	376,026.63	70.00	5,371.81	45.84	246,237.85
1999	24,587.88	70.00	351.26	46.73	16,415.07
2000	1,773.94	70.00	25.34	47.63	1,207.07
2001	9,902.35	70.00	141.46	48.54	6,866.29
2002	7,086.59	70.00	101.24	49.45	5,005.96
2003	8,037.53	70.00	114.82	50.36	5,782.98
2005	440,507.29	70.00	6,292.96	52.21	328,566.40

FE 2023 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	61,261.25	70.00	875.16	53.14	46,507.73
2007	1,173,230.81	70.00	16,760.44	54.08	906,340.92
2008	635.99	70.00	9.09	55.02	499.86
2009	399,091.66	70.00	5,701.31	55.96	319,042.95
2010	72,874.91	70.00	1,041.07	56.91	59,245.04
2011	156,261.75	70.00	2,232.31	57.86	129,158.75
2012	213,137.15	70.00	3,044.82	58.81	179,078.33
2013	863,167.90	70.00	12,330.97	59.77	737,050.65
2014	91,219.36	70.00	1,303.13	60.73	79,143.76
2015	100,084.56	70.00	1,429.78	61.70	88,215.73
2016	912,203.43	70.00	13,031.48	62.67	816,631.64
2017	198,549.41	70.00	2,836.42	63.64	180,501.04
2018	89,459.25	70.00	1,277.99	64.61	82,570.39
2019	87,206.04	70.00	1,245.80	65.59	81,706.15
2020	74,602.42	70.00	1,065.75	66.56	70,939.15
2021	397,824.46	70.00	5,683.21	67.54	383,855.68
2022	786,028.79	70.00	11,228.98	68.52	769,456.96
2023	1,763,741.59	70.00	25,196.31	69.51	1,751,330.95
Total	17,763,919.28	69.29	253,675.25	45.40	11,515,671.60

Composite Average Remaining Life ... 45.40 Years

FE 2023 Study - Metropolitan Edison
Electric Division
361.10 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	2.80	70.00	0.04	59.77	2.39
2016	61,263.28	70.00	875.19	62.67	54,844.71
2017	160,278.28	70.00	2,289.69	63.64	145,708.80
2018	89,952.94	70.00	1,285.04	64.61	83,026.07
2019	27,617.58	70.00	394.54	65.59	25,875.80
2023	107.86	70.00	1.54	69.51	107.10
Total	339,222.74	70.00	4,846.04	63.88	309,564.87

Composite Average Remaining Life ... 63.88 Years

FE 2023 Study - Metropolitan Edison
Electric Division
361.20 Structures - Subtrans (Roads and Trails)
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1903	2,377.57	75.00	31.70	1.54	48.92
1975	1,494.25	75.00	19.92	31.63	630.27
1983	5,088.94	75.00	67.85	37.88	2,570.57
1993	2,946.76	75.00	39.29	46.31	1,819.40
Total	11,907.52	75.00	158.77	31.93	5,069.15

Composite Average Remaining Life ... 31.93 Years

FE 2023 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1900	1,618.81	0.00	0.00	0.00	0.00
1905	2,460.15	0.00	0.00	0.00	0.00
1906	1,434.29	0.00	0.00	0.00	0.00
1907	300.00	0.00	0.00	0.00	0.00
1910	2,199.52	0.00	0.00	0.00	0.00
1911	417.38	0.00	0.00	0.00	0.00
1912	33.01	0.00	0.00	0.00	0.00
1914	660.18	60.00	11.00	0.66	7.30
1916	76.56	60.00	1.28	1.04	1.32
1917	1,462.63	60.00	24.38	1.30	31.60
1918	1,377.19	60.00	22.95	1.57	36.11
1919	691.14	60.00	11.52	1.82	20.98
1920	1,635.87	60.00	27.26	2.11	57.47
1921	30,041.76	60.00	500.69	2.36	1,180.04
1922	4,821.64	60.00	80.36	2.62	210.80
1923	74,741.22	60.00	1,245.68	2.90	3,611.94
1924	40,848.73	60.00	680.81	3.19	2,169.83
1925	34,931.53	60.00	582.19	3.46	2,016.11
1926	40,196.39	60.00	669.94	3.76	2,517.89
1927	203,688.49	60.00	3,394.80	4.03	13,695.22
1928	39,173.36	60.00	652.89	4.32	2,818.46
1929	82,096.47	60.00	1,368.27	4.60	6,299.96
1930	30,110.32	60.00	501.84	4.90	2,458.10
1931	37,911.01	60.00	631.85	5.18	3,275.49
1932	1,205.39	60.00	20.09	5.48	110.13
1933	6,014.97	60.00	100.25	5.77	578.04
1934	432.17	60.00	7.20	6.05	43.60

FE 2023 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1935	8,287.48	60.00	138.12	6.34	876.35
1936	1,937.43	60.00	32.29	6.64	214.42
1937	41,705.96	60.00	695.10	6.93	4,817.72
1938	10,147.42	60.00	169.12	7.23	1,223.01
1939	5,179.35	60.00	86.32	7.52	649.46
1940	17,880.22	60.00	298.00	7.82	2,330.48
1941	194,461.73	60.00	3,241.02	8.12	26,321.79
1942	79,681.21	60.00	1,328.02	8.43	11,193.38
1943	79,018.86	60.00	1,316.98	8.74	11,504.58
1944	11,826.48	60.00	197.11	9.05	1,784.26
1945	18,848.45	60.00	314.14	9.37	2,942.65
1946	38,161.12	60.00	636.02	9.69	6,162.50
1947	192,217.55	60.00	3,203.62	10.02	32,093.62
1948	230,528.41	60.00	3,842.13	10.35	39,782.84
1949	421,415.74	60.00	7,023.58	10.70	75,120.51
1950	674,648.12	60.00	11,244.11	11.05	124,204.30
1951	781,749.82	60.00	13,029.13	11.40	148,551.77
1952	313,522.85	60.00	5,225.37	11.77	61,478.80
1953	957,788.39	60.00	15,963.10	12.14	193,759.83
1954	1,158,867.36	60.00	19,314.41	12.52	241,802.55
1955	848,455.79	60.00	14,140.89	12.91	182,543.01
1956	664,900.20	60.00	11,081.64	13.31	147,469.97
1957	1,581,219.08	60.00	26,353.58	13.72	361,448.60
1958	1,028,985.23	60.00	17,149.71	14.13	242,370.49
1959	712,553.27	60.00	11,875.86	14.56	172,905.09
1960	747,233.44	60.00	12,453.86	15.00	186,748.89
1961	757,069.85	60.00	12,617.80	15.44	194,838.70

FE 2023 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1962	819,799.65	60.00	13,663.29	15.90	217,212.37
1963	721,436.02	60.00	12,023.90	16.36	196,741.98
1964	656,631.22	60.00	10,943.83	16.84	184,279.13
1965	591,287.74	60.00	9,854.77	17.32	170,727.42
1966	1,076,168.07	60.00	17,936.09	17.82	319,603.92
1967	3,317,685.01	60.00	55,294.61	18.33	1,013,277.75
1968	1,138,909.96	60.00	18,981.78	18.84	357,592.96
1969	2,901,272.88	60.00	48,354.43	19.37	936,387.52
1970	1,352,056.23	60.00	22,534.21	19.90	448,450.07
1971	3,158,517.65	60.00	52,641.83	20.45	1,076,312.24
1972	1,929,253.83	60.00	32,154.15	21.00	675,223.47
1973	2,193,544.81	60.00	36,558.99	21.56	788,377.54
1974	1,729,780.45	60.00	28,829.60	22.14	638,182.21
1975	414,919.55	60.00	6,915.31	22.72	157,121.77
1976	901,598.20	60.00	15,026.60	23.31	350,333.06
1977	317,484.14	60.00	5,291.39	23.92	126,550.17
1978	178,544.39	60.00	2,975.73	24.53	72,983.36
1979	634,790.09	60.00	10,579.81	25.15	266,049.42
1980	334,775.55	60.00	5,579.58	25.77	143,806.71
1981	1,044,037.78	60.00	17,400.59	26.41	459,596.03
1982	489,174.31	60.00	8,152.88	27.06	220,614.50
1983	2,005,616.84	60.00	33,426.86	27.71	926,414.94
1984	3,372,280.89	60.00	56,204.54	28.38	1,594,908.00
1985	2,984,333.05	60.00	49,738.76	29.05	1,444,861.35
1986	3,130,588.11	60.00	52,176.34	29.73	1,551,027.34
1987	3,190,630.40	60.00	53,177.04	30.42	1,617,402.93
1988	2,863,608.32	60.00	47,726.69	31.11	1,484,851.98

FE 2023 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1989	4,330,990.96	60.00	72,183.00	31.81	2,296,498.84
1990	8,621,690.87	60.00	143,694.49	32.52	4,673,640.59
1991	5,922,718.43	60.00	98,711.73	33.24	3,281,556.62
1992	6,310,498.22	60.00	105,174.71	33.97	3,572,551.38
1993	5,805,962.23	60.00	96,765.79	34.70	3,357,956.40
1994	2,392,770.12	60.00	39,879.40	35.44	1,413,432.11
1995	4,911,632.82	60.00	81,860.34	36.19	2,962,526.98
1996	1,080,205.87	60.00	18,003.39	36.94	665,104.05
1997	5,516,681.96	60.00	91,944.47	37.70	3,466,747.02
1998	3,162,402.03	60.00	52,706.57	38.47	2,027,665.08
1999	1,770,088.29	60.00	29,501.40	39.25	1,157,813.76
2000	1,429,189.02	60.00	23,819.76	40.03	953,441.98
2001	6,174,548.24	60.00	102,908.88	40.81	4,200,188.57
2002	3,079,682.77	60.00	51,327.92	41.61	2,135,615.99
2003	4,935,681.59	60.00	82,261.15	42.41	3,488,484.21
2004	2,374,556.19	60.00	39,575.84	43.21	1,710,139.46
2005	8,764,087.49	60.00	146,067.76	44.02	6,430,528.50
2006	4,645,606.45	60.00	77,426.58	44.84	3,471,990.68
2007	8,701,096.43	60.00	145,017.91	45.66	6,622,155.31
2008	8,919,274.00	60.00	148,654.19	46.49	6,911,573.39
2009	5,869,369.22	60.00	97,822.57	47.33	4,629,887.96
2010	14,849,672.18	60.00	247,493.91	48.17	11,921,376.48
2011	5,827,691.71	60.00	97,127.95	49.01	4,760,699.94
2012	6,622,656.39	60.00	110,377.33	49.87	5,504,079.53
2013	18,558,907.57	60.00	309,314.35	50.72	15,689,118.35
2014	10,490,671.95	60.00	174,844.09	51.58	9,018,958.18
2015	11,591,595.08	60.00	193,192.76	52.45	10,132,859.55

FE 2023 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	9,402,372.01	60.00	156,705.81	53.32	8,355,478.33
2017	7,985,103.39	60.00	133,084.72	54.20	7,212,677.05
2018	8,188,990.89	60.00	136,482.84	55.08	7,517,085.02
2019	8,972,834.82	60.00	149,546.87	55.96	8,369,016.06
2020	12,518,961.31	60.00	208,648.83	56.85	11,862,053.60
2021	11,747,377.30	60.00	195,789.13	57.75	11,306,093.98
2022	11,589,492.76	60.00	193,157.73	58.64	11,327,510.82
2023	10,624,997.57	60.00	177,082.85	59.55	10,544,767.63
Total	309,357,654.26	56.38	5,155,806.86	43.23	222,906,443.51

Composite Average Remaining Life ... 43.23 Years

FE 2023 Study - Metropolitan Edison
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1968	64,221.09	60.00	1,070.35	18.84	20,164.03
1971	13,539.37	60.00	225.66	20.45	4,613.74
1973	3,233.03	60.00	53.88	21.56	1,161.98
1986	7,888.25	60.00	131.47	29.73	3,908.18
1997	4.43	60.00	0.07	37.70	2.78
2002	907,443.87	60.00	15,124.03	41.61	629,269.89
2012	950,122.49	60.00	15,835.33	49.87	789,645.34
2013	8,732.28	60.00	145.54	50.72	7,382.00
2014	237,507.13	60.00	3,958.44	51.58	204,187.77
2015	733,845.10	60.00	12,230.72	52.45	641,494.92
2016	780,994.97	60.00	13,016.55	53.32	694,036.20
2017	267,474.74	60.00	4,457.90	54.20	241,600.99
2018	1,498,586.27	60.00	24,976.37	55.08	1,375,627.42
2019	979,592.52	60.00	16,326.50	55.96	913,671.73
2020	2,736,898.03	60.00	45,614.85	56.85	2,593,284.72
2021	792,168.98	60.00	13,202.78	57.75	762,411.62
2022	650,129.17	60.00	10,835.46	58.64	635,432.92
2023	1,287,277.94	60.00	21,454.58	59.55	1,277,557.63
Total	11,919,659.66	60.00	198,660.49	54.34	10,795,453.86

Composite Average Remaining Life ... 54.34 Years

FE 2023 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	219,072.28	65.00	3,370.31	14.55	49,039.83
1944	45,222.80	65.00	695.73	14.91	10,371.40
1945	85,146.31	65.00	1,309.93	15.27	20,004.53
1946	153,457.49	65.00	2,360.86	15.64	36,927.03
1947	174,110.82	65.00	2,678.60	16.02	42,908.11
1948	309,786.20	65.00	4,765.89	16.40	78,173.95
1949	260,260.94	65.00	4,003.97	16.79	67,243.96
1950	230,158.19	65.00	3,540.86	17.19	60,878.12
1951	111,992.05	65.00	1,722.94	17.60	30,322.22
1952	431,207.19	65.00	6,633.89	18.01	119,497.96
1953	441,585.89	65.00	6,793.56	18.44	125,239.87
1954	613,484.67	65.00	9,438.13	18.86	178,044.20
1955	678,478.66	65.00	10,438.02	19.30	201,475.30
1956	733,493.44	65.00	11,284.40	19.75	222,833.17
1957	792,111.12	65.00	12,186.20	20.20	246,171.72
1958	903,744.60	65.00	13,903.62	20.66	287,272.44
1959	1,024,284.67	65.00	15,758.06	21.13	332,997.10
1960	1,022,921.80	65.00	15,737.09	21.61	340,057.27
1961	1,107,925.53	65.00	17,044.83	22.10	376,608.56
1962	1,312,702.58	65.00	20,195.21	22.59	456,167.53
1963	1,336,071.76	65.00	20,554.74	23.09	474,624.96
1964	1,512,002.07	65.00	23,261.33	23.60	548,952.64
1965	1,716,487.64	65.00	26,407.23	24.12	636,901.86
1966	1,738,119.27	65.00	26,740.02	24.64	659,001.20
1967	2,003,612.82	65.00	30,824.49	25.18	776,093.56
1968	2,321,884.41	65.00	35,720.93	25.72	918,741.75
1969	2,583,131.48	65.00	39,740.07	26.27	1,043,910.57

FE 2023 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	2,743,181.08	65.00	42,202.35	26.83	1,132,130.16
1971	3,278,096.85	65.00	50,431.73	27.39	1,381,316.57
1972	3,102,945.68	65.00	47,737.13	27.96	1,334,868.80
1973	4,061,435.96	65.00	62,482.98	28.54	1,783,343.83
1974	4,058,002.44	65.00	62,430.16	29.13	1,818,546.91
1975	2,798,352.73	65.00	43,051.13	29.72	1,279,570.04
1976	2,908,440.83	65.00	44,744.78	30.32	1,356,871.12
1977	2,844,693.37	65.00	43,764.06	30.93	1,353,688.65
1978	2,991,616.70	65.00	46,024.39	31.55	1,451,988.17
1979	2,790,627.07	65.00	42,932.28	32.17	1,381,168.29
1980	2,758,197.40	65.00	42,433.36	32.80	1,391,773.33
1981	2,604,019.34	65.00	40,061.42	33.44	1,339,458.50
1982	3,177,074.28	65.00	48,877.56	34.08	1,665,563.39
1983	4,626,815.88	65.00	71,181.04	34.73	2,471,785.06
1984	4,049,905.23	65.00	62,305.59	35.38	2,204,304.92
1985	5,670,459.85	65.00	87,236.94	36.04	3,144,064.11
1986	6,684,443.67	65.00	102,836.52	36.71	3,774,729.24
1987	8,270,053.44	65.00	127,230.27	37.38	4,755,829.59
1988	8,453,110.30	65.00	130,046.50	38.06	4,949,153.84
1989	9,995,920.33	65.00	153,781.79	38.74	5,957,794.35
1990	9,677,094.71	65.00	148,876.83	39.43	5,870,210.98
1991	13,293,260.30	65.00	204,509.57	40.13	8,206,150.60
1992	9,620,083.28	65.00	147,999.74	40.83	6,042,301.64
1993	9,813,832.64	65.00	150,980.47	41.53	6,270,367.26
1994	8,835,155.75	65.00	135,924.06	42.24	5,741,648.49
1995	8,162,692.16	65.00	125,578.57	42.96	5,394,331.88
1996	5,438,807.42	65.00	83,673.09	43.68	3,654,512.05

FE 2023 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	7,567,396.58	65.00	116,420.27	44.40	5,169,001.04
1998	9,774,583.08	65.00	150,376.63	45.13	6,786,325.20
1999	6,663,910.97	65.00	102,520.64	45.86	4,701,695.54
2000	5,160,850.50	65.00	79,396.87	46.60	3,699,810.08
2001	9,515,628.24	65.00	146,392.76	47.34	6,930,128.66
2002	5,489,819.16	65.00	84,457.88	48.09	4,061,193.11
2003	5,427,834.99	65.00	83,504.28	48.83	4,077,815.18
2004	6,762,857.86	65.00	104,042.88	49.59	5,159,230.71
2005	9,392,566.78	65.00	144,499.52	50.34	7,274,773.32
2006	9,281,907.51	65.00	142,797.09	51.10	7,297,595.16
2007	8,694,882.01	65.00	133,766.02	51.87	6,938,338.70
2008	15,348,485.98	65.00	236,128.09	52.64	12,428,959.96
2009	12,768,050.22	65.00	196,429.50	53.41	10,491,008.12
2010	10,706,390.86	65.00	164,711.99	54.18	8,924,597.52
2011	11,779,165.20	65.00	181,216.04	54.96	9,960,074.68
2012	18,676,474.43	65.00	287,327.38	55.74	16,016,823.75
2013	9,047,289.74	65.00	139,187.62	56.53	7,868,398.95
2014	12,724,027.47	65.00	195,752.23	57.32	11,220,472.14
2015	7,099,776.91	65.00	109,226.20	58.11	6,347,547.51
2016	9,162,199.03	65.00	140,955.44	58.91	8,303,653.79
2017	14,549,164.30	65.00	223,830.97	59.71	13,365,182.35
2018	22,898,179.02	65.00	352,276.01	60.52	21,318,116.95
2019	21,990,736.22	65.00	338,315.49	61.32	20,746,383.52
2020	26,185,943.32	65.00	402,856.47	62.13	25,031,127.08
2021	24,934,040.40	65.00	383,596.63	62.95	24,146,765.81
2022	35,685,562.27	65.00	549,002.93	63.77	35,008,265.09
2023	36,561,743.24	65.00	562,482.50	64.59	36,329,720.04

FE 2023 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	550,420,241.66	65.00	8,467,915.52	50.20	425,050,936.55

Composite Average Remaining Life ... *50.20 Years*

FE 2023 Study - Metropolitan Edison
Electric Division
364.10 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *80* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1926	1,345.11	80.00	16.81	5.73	96.36
1929	2,082.40	80.00	26.03	6.56	170.68
1948	2,335.61	80.00	29.19	14.01	409.04
1953	4,671.22	80.00	58.39	17.02	994.02
1955	2,335.61	80.00	29.19	18.33	535.17
1962	16,349.25	80.00	204.36	23.21	4,744.21
1998	6,147.80	80.00	76.85	54.70	4,203.83
2007	859.01	80.00	10.74	63.56	682.47
Total	36,126.01	80.00	451.57	26.21	11,835.78

Composite Average Remaining Life ... 26.21 Years

FE 2023 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	702.85	65.00	10.81	10.08	109.05
1938	1,728.17	65.00	26.59	12.85	341.75
1939	96.14	65.00	1.48	13.18	19.50
1940	283.10	65.00	4.36	13.51	58.86
1941	261.13	65.00	4.02	13.85	55.66
1942	264.57	65.00	4.07	14.20	57.79
1943	113.70	65.00	1.75	14.55	25.45
1944	795.41	65.00	12.24	14.91	182.42
1945	65.71	65.00	1.01	15.27	15.44
1946	440.47	65.00	6.78	15.64	105.99
1947	732.03	65.00	11.26	16.02	180.40
1948	1,234.77	65.00	19.00	16.40	311.59
1949	591.25	65.00	9.10	16.79	152.76
1950	1,539.84	65.00	23.69	17.19	407.30
1951	1,273.63	65.00	19.59	17.60	344.84
1952	28,420.50	65.00	437.23	18.01	7,876.01
1953	24,305.18	65.00	373.92	18.44	6,893.29
1954	12,257.86	65.00	188.58	18.86	3,557.45
1955	1,900.21	65.00	29.23	19.30	564.27
1956	3,469.19	65.00	53.37	19.75	1,053.93
1957	23,165.84	65.00	356.39	20.20	7,199.46
1958	2,013.13	65.00	30.97	20.66	639.91
1959	12,639.83	65.00	194.46	21.13	4,109.24
1960	55,483.74	65.00	853.59	21.61	18,444.86
1961	50,383.33	65.00	775.12	22.10	17,126.42
1962	6,408.25	65.00	98.59	22.59	2,226.88
1963	1,843.94	65.00	28.37	23.09	655.04

FE 2023 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1964	11,814.01	65.00	181.75	23.60	4,289.23
1965	3,787.29	65.00	58.27	24.12	1,405.27
1966	2,020.96	65.00	31.09	24.64	766.24
1967	1,849.98	65.00	28.46	25.18	716.58
1968	5,622.75	65.00	86.50	25.72	2,224.85
1969	1,630.57	65.00	25.09	26.27	658.96
1970	285,717.12	65.00	4,395.60	26.83	117,917.47
1971	10,343.25	65.00	159.13	27.39	4,358.41
1972	832.50	65.00	12.81	27.96	358.14
1973	1,003.05	65.00	15.43	28.54	440.43
1974	2,634.66	65.00	40.53	29.13	1,180.69
1975	26,188.75	65.00	402.90	29.72	11,975.02
1976	8,584.91	65.00	132.07	30.32	4,005.11
1977	3,204.55	65.00	49.30	30.93	1,524.93
1978	11,980.20	65.00	184.31	31.55	5,814.62
1979	10,907.53	65.00	167.81	32.17	5,398.48
1980	756.21	65.00	11.63	32.80	381.58
1981	18,052.63	65.00	277.73	33.44	9,285.93
1982	7,111.34	65.00	109.40	34.08	3,728.08
1983	7,736.69	65.00	119.02	34.73	4,133.17
1984	5,606.54	65.00	86.25	35.38	3,051.56
1985	7,962.30	65.00	122.50	36.04	4,414.81
1987	28,399.12	65.00	436.90	37.38	16,331.38
1988	8,946.17	65.00	137.63	38.06	5,237.83
1990	376.27	65.00	5.79	39.43	228.25
1991	401.68	65.00	6.18	40.13	247.96
1997	977.29	65.00	15.04	44.40	667.55

FE 2023 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	27,465.40	65.00	422.54	48.83	20,634.16
2004	12,230.16	65.00	188.15	49.59	9,330.11
2005	30,435.12	65.00	468.23	50.34	23,572.75
2006	47,470.76	65.00	730.31	51.10	37,322.33
2007	21,306.46	65.00	327.79	51.87	17,002.12
2008	4,708.79	65.00	72.44	52.64	3,813.10
2012	138,052.44	65.00	2,123.86	55.74	118,392.88
2014	157,467.11	65.00	2,422.55	57.32	138,859.75
2016	7,418.36	65.00	114.13	58.91	6,723.22
2017	485.63	65.00	7.47	59.71	446.11
2018	98,981.47	65.00	1,522.78	60.52	92,151.37
2019	19,456.05	65.00	299.32	61.32	18,355.12
2020	14,421.96	65.00	221.87	62.13	13,785.94
2021	101,382.41	65.00	1,559.71	62.95	98,181.33
2022	237,784.97	65.00	3,658.19	63.77	233,271.91
2023	1,608,492.46	65.00	24,745.78	64.59	1,598,284.86
Total	3,234,421.64	65.00	49,759.81	54.53	2,713,585.18

Composite Average Remaining Life ... 54.53 Years

FE 2023 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	1,239,093.01	60.00	20,651.19	19.75	407,926.40
1944	22,406.10	60.00	373.43	20.25	7,563.08
1945	69,257.12	60.00	1,154.27	20.75	23,954.48
1946	115,822.17	60.00	1,930.34	21.25	41,025.32
1947	108,428.22	60.00	1,807.11	21.75	39,309.75
1948	185,157.14	60.00	3,085.90	22.25	68,669.94
1949	239,364.29	60.00	3,989.34	22.75	90,768.35
1950	113,272.67	60.00	1,887.85	23.25	43,897.48
1951	198,186.88	60.00	3,303.06	23.75	78,456.30
1952	139,380.32	60.00	2,322.97	24.25	56,337.89
1953	224,553.05	60.00	3,742.49	24.75	92,635.98
1954	357,827.70	60.00	5,963.69	25.25	150,597.98
1955	394,268.03	60.00	6,571.02	25.75	169,219.75
1956	399,702.26	60.00	6,661.59	26.25	174,882.60
1957	518,222.74	60.00	8,636.90	26.75	231,057.15
1958	560,261.56	60.00	9,337.53	27.25	254,469.13
1959	563,662.69	60.00	9,394.22	27.75	260,710.63
1960	585,053.41	60.00	9,750.72	28.25	275,479.45
1961	705,931.83	60.00	11,765.33	28.75	338,278.73
1962	782,361.58	60.00	13,039.13	29.25	381,422.56
1963	878,167.93	60.00	14,635.88	29.75	435,448.23
1964	797,965.92	60.00	13,299.20	30.25	402,328.33
1965	942,949.85	60.00	15,715.56	30.75	483,285.38
1966	1,148,465.53	60.00	19,140.76	31.25	598,187.07
1967	1,486,176.48	60.00	24,769.18	31.75	786,470.22
1968	1,420,884.62	60.00	23,681.00	32.25	763,758.07
1969	1,616,106.51	60.00	26,934.64	32.75	882,160.90

FE 2023 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1970	1,682,024.40	60.00	28,033.26	33.25	932,158.55
1971	2,082,567.29	60.00	34,708.85	33.75	1,171,488.32
1972	1,894,802.48	60.00	31,579.50	34.25	1,081,655.53
1973	2,073,734.89	60.00	34,561.65	34.75	1,201,079.61
1974	2,117,846.47	60.00	35,296.83	35.25	1,244,275.98
1975	1,316,387.51	60.00	21,939.41	35.75	784,372.43
1976	1,482,093.25	60.00	24,701.13	36.25	895,458.54
1977	1,318,095.75	60.00	21,967.88	36.75	807,357.14
1978	1,282,084.36	60.00	21,367.70	37.25	795,982.89
1979	932,578.53	60.00	15,542.71	37.75	586,762.88
1980	1,303,509.83	60.00	21,724.79	38.25	831,008.61
1981	1,240,619.39	60.00	20,676.63	38.75	801,252.83
1982	1,490,227.25	60.00	24,836.69	39.25	974,879.67
1983	2,516,530.24	60.00	41,941.45	39.75	1,667,238.24
1984	2,313,976.94	60.00	38,565.62	40.25	1,552,325.78
1985	2,677,252.71	60.00	44,620.11	40.75	1,818,337.93
1986	3,541,711.89	60.00	59,027.51	41.25	2,434,974.53
1987	3,504,799.35	60.00	58,412.31	41.75	2,438,801.78
1988	3,045,122.67	60.00	50,751.17	42.25	2,144,311.97
1989	4,090,204.34	60.00	68,168.89	42.75	2,914,320.01
1990	5,582,445.77	60.00	93,039.15	43.25	4,024,078.11
1991	6,538,028.46	60.00	108,965.26	43.75	4,767,385.98
1992	7,195,245.43	60.00	119,918.68	44.25	5,306,571.53
1993	6,966,611.42	60.00	116,108.18	44.75	5,196,003.77
1994	7,529,124.20	60.00	125,483.23	45.25	5,678,289.26
1995	5,410,519.45	60.00	90,173.77	45.75	4,125,572.71
1996	3,844,389.10	60.00	64,072.04	46.25	2,963,418.48

FE 2023 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	5,315,360.87	60.00	88,587.82	46.75	4,141,598.70
1998	5,139,642.06	60.00	85,659.22	47.25	4,047,510.90
1999	5,583,174.33	60.00	93,051.30	47.75	4,443,320.83
2000	5,334,719.64	60.00	88,910.46	48.25	4,290,044.92
2001	5,784,934.32	60.00	96,413.91	48.75	4,700,301.85
2002	5,348,804.12	60.00	89,145.19	49.25	4,390,514.32
2003	3,588,252.75	60.00	59,803.18	49.75	2,975,283.33
2004	8,164,481.86	60.00	136,072.35	50.25	6,837,804.79
2005	12,404,761.29	60.00	206,742.45	50.75	10,492,434.19
2006	11,975,154.85	60.00	199,582.46	51.25	10,228,845.11
2007	21,272,476.38	60.00	354,535.14	51.75	18,347,622.80
2008	19,423,039.45	60.00	323,711.73	52.25	16,914,325.97
2009	22,174,074.65	60.00	369,561.52	52.75	19,494,806.78
2010	14,386,525.46	60.00	239,771.28	53.25	12,768,101.27
2011	22,539,427.81	60.00	375,650.64	53.75	20,191,657.47
2012	33,905,026.42	60.00	565,074.00	54.25	30,655,914.50
2013	14,745,420.87	60.00	245,752.77	54.75	13,455,243.17
2014	18,902,386.68	60.00	315,034.33	55.25	17,406,001.70
2015	15,367,515.51	60.00	256,120.83	55.75	14,279,023.87
2016	21,223,044.08	60.00	353,711.29	56.25	19,896,654.02
2017	22,634,266.76	60.00	377,231.26	56.75	21,408,290.70
2018	38,434,022.91	60.00	640,555.97	57.25	36,672,529.14
2019	37,697,072.29	60.00	628,273.68	57.75	36,283,485.34
2020	38,312,569.12	60.00	638,531.78	58.25	37,195,162.13
2021	30,650,302.71	60.00	510,829.55	58.75	30,011,780.22
2022	31,211,546.99	60.00	520,183.46	59.25	30,821,419.65
2023	43,539,029.46	60.00	725,637.95	59.75	43,357,628.16

FE 2023 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	615,842,496.62	60.00	10,263,864.16	52.84	542,384,970.02

Composite Average Remaining Life ... *52.84 Years*

FE 2023 Study - Metropolitan Edison
Electric Division
365.01 Overhead Conductors and Devices - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1939	38.09	60.00	0.63	17.75	11.27
1940	31.89	60.00	0.53	18.25	9.70
1942	710.00	60.00	11.83	19.25	227.83
1943	27.61	60.00	0.46	19.75	9.09
1944	70.73	60.00	1.18	20.25	23.87
1945	168.73	60.00	2.81	20.75	58.36
1946	99.09	60.00	1.65	21.25	35.10
1947	131.73	60.00	2.20	21.75	47.76
1948	1,390.11	60.00	23.17	22.25	515.56
1949	30.39	60.00	0.51	22.75	11.52
1950	10,526.70	60.00	175.44	23.25	4,079.50
1951	990.10	60.00	16.50	23.75	391.95
1952	22,038.55	60.00	367.30	24.25	8,908.04
1953	13,021.43	60.00	217.02	24.75	5,371.79
1954	2,967.70	60.00	49.46	25.25	1,249.01
1955	4,835.80	60.00	80.60	25.75	2,075.52
1956	3,445.72	60.00	57.43	26.25	1,507.61
1957	11,694.14	60.00	194.90	26.75	5,214.00
1958	152.56	60.00	2.54	27.25	69.29
1959	21,521.10	60.00	358.68	27.75	9,954.14
1960	35,551.43	60.00	592.51	28.25	16,739.82
1961	18,396.12	60.00	306.60	28.75	8,815.32
1962	10,322.71	60.00	172.04	29.25	5,032.60
1963	232.90	60.00	3.88	29.75	115.49
1964	3,067.11	60.00	51.12	30.25	1,546.41
1965	6,210.01	60.00	103.50	30.75	3,182.79
1966	18,679.91	60.00	311.33	31.25	9,729.57

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Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1967	1,743.93	60.00	29.06	31.75	922.87
1968	28,411.37	60.00	473.51	32.25	15,271.76
1969	11,879.99	60.00	198.00	32.75	6,484.76
1970	1,093.30	60.00	18.22	33.25	605.89
1971	3,877.44	60.00	64.62	33.75	2,181.14
1972	1,535.15	60.00	25.59	34.25	876.35
1973	2,906.23	60.00	48.44	34.75	1,683.25
1974	13,628.48	60.00	227.14	35.25	8,007.00
1975	4,118.94	60.00	68.65	35.75	2,454.28
1976	9,542.02	60.00	159.03	36.25	5,765.15
1977	4,307.63	60.00	71.79	36.75	2,638.50
1978	4,016.05	60.00	66.93	37.25	2,493.37
1979	1,524.69	60.00	25.41	37.75	959.31
1980	2,385.56	60.00	39.76	38.25	1,520.83
1981	1,869.24	60.00	31.15	38.75	1,207.25
1982	13,228.37	60.00	220.47	39.25	8,653.76
1983	558.15	60.00	9.30	39.75	369.78
1984	2,555.57	60.00	42.59	40.25	1,714.40
1985	9,403.35	60.00	156.72	40.75	6,386.57
1987	25,041.18	60.00	417.35	41.75	17,424.81
1988	16,503.46	60.00	275.05	42.25	11,621.39
1989	1,073.87	60.00	17.90	42.75	765.15
1990	26,393.66	60.00	439.89	43.25	19,025.74
1991	9,128.79	60.00	152.14	43.75	6,656.51
1993	4,294.68	60.00	71.58	44.75	3,203.16
2004	96,623.40	60.00	1,610.36	50.25	80,922.70
2005	77,537.05	60.00	1,292.26	50.75	65,583.88

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Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	1,977.22	60.00	32.95	51.25	1,688.89
2007	195,825.21	60.00	3,263.70	51.75	168,900.27
2008	10,488.87	60.00	174.81	52.25	9,134.11
2009	22,850.36	60.00	380.83	52.75	20,089.38
2010	7,205.30	60.00	120.09	53.25	6,394.73
2012	236,026.57	60.00	3,933.71	54.25	213,408.19
2014	160,596.27	60.00	2,676.56	55.25	147,882.86
2015	3,638.52	60.00	60.64	55.75	3,380.80
2016	7,133.20	60.00	118.88	56.25	6,687.39
2017	9,807.05	60.00	163.45	56.75	9,275.86
2018	67,367.30	60.00	1,122.77	57.25	64,279.75
2019	2,451.08	60.00	40.85	57.75	2,359.17
2020	1,105.33	60.00	18.42	58.25	1,073.09
2021	22,958.90	60.00	382.64	58.75	22,480.61
2022	3,113.80	60.00	51.90	59.25	3,074.88
2023	31,588.83	60.00	526.47	59.75	31,457.22
Total	1,345,667.72	60.00	22,427.41	47.79	1,071,899.68

Composite Average Remaining Life ... 47.79 Years

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Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	380,513.31	70.00	5,435.88	6.38	34,661.25
1944	15,821.25	70.00	226.02	6.68	1,510.63
1945	42,550.51	70.00	607.86	6.99	4,249.21
1946	63,631.42	70.00	909.02	7.32	6,650.91
1947	69,038.07	70.00	986.25	7.65	7,545.12
1948	89,249.67	70.00	1,274.99	8.00	10,202.04
1949	111,809.97	70.00	1,597.28	8.37	13,364.72
1950	64,472.02	70.00	921.02	8.75	8,059.37
1951	142,947.05	70.00	2,042.09	9.15	18,687.74
1952	84,341.60	70.00	1,204.87	9.57	11,535.93
1953	94,275.28	70.00	1,346.78	10.02	13,488.80
1954	140,496.62	70.00	2,007.08	10.48	21,040.60
1955	114,406.64	70.00	1,634.37	10.97	17,928.03
1956	157,112.80	70.00	2,244.46	11.48	25,773.92
1957	154,150.38	70.00	2,202.14	12.02	26,462.83
1958	205,720.85	70.00	2,938.86	12.57	36,945.08
1959	219,487.04	70.00	3,135.51	13.16	41,253.47
1960	184,164.75	70.00	2,630.91	13.76	36,189.05
1961	112,032.35	70.00	1,600.45	14.38	23,014.15
1962	101,482.68	70.00	1,449.75	15.02	21,768.83
1963	105,031.57	70.00	1,500.44	15.67	23,512.80
1964	101,255.83	70.00	1,446.50	16.33	23,628.57
1965	112,141.95	70.00	1,602.02	17.01	27,248.71
1966	137,922.39	70.00	1,970.31	17.70	34,871.42
1967	147,026.94	70.00	2,100.37	18.39	38,630.91
1968	157,352.81	70.00	2,247.89	19.10	42,935.51
1969	167,220.44	70.00	2,388.85	19.81	47,334.34

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Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	199,854.86	70.00	2,855.06	20.54	58,650.01
1971	188,095.19	70.00	2,687.06	21.28	57,175.88
1972	242,676.69	70.00	3,466.79	22.02	76,349.95
1973	273,558.19	70.00	3,907.96	22.78	89,040.81
1974	264,472.28	70.00	3,778.16	23.55	88,981.78
1975	126,037.32	70.00	1,800.52	24.33	43,813.63
1976	217,645.81	70.00	3,109.21	25.12	78,112.91
1977	249,591.37	70.00	3,565.57	25.93	92,440.92
1978	250,510.99	70.00	3,578.71	26.74	95,683.82
1979	190,024.02	70.00	2,714.62	27.56	74,806.93
1980	234,120.27	70.00	3,344.56	28.39	94,959.56
1981	196,628.87	70.00	2,808.97	29.23	82,114.85
1982	200,843.36	70.00	2,869.18	30.09	86,325.36
1983	346,093.20	70.00	4,944.16	30.95	153,010.15
1984	251,487.33	70.00	3,592.66	31.82	114,316.93
1985	374,897.72	70.00	5,355.66	32.70	175,121.68
1986	648,563.92	70.00	9,265.15	33.58	311,169.46
1987	1,058,580.27	70.00	15,122.50	34.48	521,471.14
1988	1,231,252.20	70.00	17,589.23	35.39	622,411.95
1989	1,328,283.71	70.00	18,975.39	36.30	688,783.19
1990	1,308,777.24	70.00	18,696.73	37.22	695,826.42
1991	1,221,528.11	70.00	17,450.32	38.14	665,599.01
1992	1,262,265.83	70.00	18,032.28	39.07	704,585.66
1993	1,098,372.52	70.00	15,690.96	40.01	627,795.18
1994	1,641,782.22	70.00	23,453.92	40.95	960,540.26
1995	1,004,098.76	70.00	14,344.20	41.90	601,049.60
1996	617,283.24	70.00	8,818.29	42.86	377,916.25

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Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	869,150.23	70.00	12,416.37	43.81	544,001.03
1998	1,228,338.58	70.00	17,547.61	44.78	785,705.25
1999	789,723.85	70.00	11,281.71	45.74	516,038.83
2000	1,060,475.82	70.00	15,149.58	46.71	707,636.75
2001	1,207,765.63	70.00	17,253.71	47.68	822,715.38
2002	1,098,343.80	70.00	15,690.55	48.66	763,481.58
2003	323,271.89	70.00	4,618.15	49.64	229,233.64
2005	6,915,953.00	70.00	98,798.85	51.60	5,098,187.17
2006	581,115.34	70.00	8,301.61	52.59	436,554.76
2007	2,974.20	70.00	42.49	53.57	2,276.25
2008	5,622,608.19	70.00	80,322.59	54.56	4,382,607.86
2009	27,126,138.53	70.00	387,514.39	55.55	21,527,417.89
2010	16,055,137.78	70.00	229,358.00	56.54	12,968,875.57
2011	5,184,882.04	70.00	74,069.39	57.54	4,261,713.43
2012	831,486.57	70.00	11,878.32	58.53	695,244.66
2013	40,359,578.39	70.00	576,562.62	59.53	34,319,910.85
2014	11,540,948.14	70.00	164,869.89	60.52	9,977,971.37
2015	1,165,582.62	70.00	16,651.10	61.52	1,024,316.72
2016	3,955,815.95	70.00	56,511.38	62.51	3,532,697.72
2017	7,901,698.47	70.00	112,880.86	63.51	7,169,094.67
2018	15,784,990.48	70.00	225,498.77	64.51	14,546,441.95
2019	23,634,161.15	70.00	337,629.24	65.51	22,116,706.48
2020	19,228,895.23	70.00	274,697.18	66.50	18,268,519.15
2021	16,315,692.84	70.00	233,080.20	67.50	15,733,564.04
2022	309,408.58	70.00	4,420.10	68.50	302,784.42
2023	568,759.43	70.00	8,125.10	69.50	564,700.00

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Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	229,365,878.41	70.00	3,276,639.57	58.03	190,154,944.64

Composite Average Remaining Life ... 58.03 Years

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Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1940	3,106.30	70.00	44.38	5.51	244.49
1941	3,174.60	70.00	45.35	5.80	262.85
1942	6,158.31	70.00	87.98	6.08	534.81
1944	246.45	70.00	3.52	6.68	23.53
1945	807.20	70.00	11.53	6.99	80.61
1947	41.46	70.00	0.59	7.65	4.53
1948	827.60	70.00	11.82	8.00	94.60
1949	261.20	70.00	3.73	8.37	31.22
1950	9,499.49	70.00	135.71	8.75	1,187.49
1951	44.80	70.00	0.64	9.15	5.86
1952	4,778.63	70.00	68.27	9.57	653.60
1953	4,445.49	70.00	63.51	10.02	636.06
1954	5,293.29	70.00	75.62	10.48	792.72
1955	8,151.92	70.00	116.46	10.97	1,277.44
1956	10,692.28	70.00	152.75	11.48	1,754.04
1957	834.54	70.00	11.92	12.02	143.26
1958	11,461.24	70.00	163.73	12.57	2,058.31
1959	1,895.17	70.00	27.07	13.16	356.20
1960	1,515.25	70.00	21.65	13.76	297.75
1961	11,379.95	70.00	162.57	14.38	2,337.72
1962	4,376.50	70.00	62.52	15.02	938.79
1963	8,450.35	70.00	120.72	15.67	1,891.73
1964	9,388.90	70.00	134.13	16.33	2,190.95
1965	4,416.63	70.00	63.09	17.01	1,073.17
1966	6,215.37	70.00	88.79	17.70	1,571.45
1967	3,362.21	70.00	48.03	18.39	883.41
1968	20,172.86	70.00	288.18	19.10	5,504.39

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Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	12,247.51	70.00	174.96	19.81	3,466.85
1970	4,401.53	70.00	62.88	20.54	1,291.69
1971	13,293.91	70.00	189.91	21.28	4,040.99
1972	7,866.02	70.00	112.37	22.02	2,474.78
1973	1,303.64	70.00	18.62	22.78	424.32
1975	8,411.64	70.00	120.17	24.33	2,924.09
1976	4,114.43	70.00	58.78	25.12	1,476.67
1979	786.81	70.00	11.24	27.56	309.74
1981	405.12	70.00	5.79	29.23	169.18
1982	99.84	70.00	1.43	30.09	42.91
1983	1,134.79	70.00	16.21	30.95	501.70
1984	7,489.65	70.00	106.99	31.82	3,404.52
1985	1,562.21	70.00	22.32	32.70	729.74
1986	26.54	70.00	0.38	33.58	12.73
1988	0.04	70.00	0.00	35.39	0.02
1989	7.31	70.00	0.10	36.30	3.79
1993	814.09	70.00	11.63	40.01	465.31
1998	52,089.19	70.00	744.13	44.78	33,318.79
2008	4,000.78	70.00	57.15	54.56	3,118.45
2016	66,137.05	70.00	944.81	62.51	59,062.96
2018	1,125.43	70.00	16.08	64.51	1,037.12
2019	81,631.95	70.00	1,166.17	65.51	76,390.69
2020	19,044.41	70.00	272.06	66.50	18,093.25
2021	8.00	70.00	0.11	67.50	7.71
2023	30.53	70.00	0.44	69.50	30.31

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Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	429,030.41	70.00	6,128.98	39.10	239,629.32

Composite Average Remaining Life ... 39.10 Years

FE 2023 Study - Metropolitan Edison
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Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	812,660.67	65.00	12,502.34	14.55	181,915.93
1946	11,481.88	65.00	176.64	15.64	2,762.93
1948	16,519.99	65.00	254.15	16.40	4,168.79
1949	40,112.04	65.00	617.10	16.79	10,363.80
1950	39,793.91	65.00	612.21	17.19	10,525.71
1951	62,754.10	65.00	965.44	17.60	16,990.88
1952	99,859.43	65.00	1,536.28	18.01	27,673.47
1953	38,846.78	65.00	597.64	18.44	11,017.48
1954	192,246.43	65.00	2,957.61	18.86	55,793.35
1955	135,726.49	65.00	2,088.08	19.30	40,304.19
1956	145,856.92	65.00	2,243.93	19.75	44,310.91
1957	142,047.37	65.00	2,185.32	20.20	44,145.38
1958	151,043.20	65.00	2,323.72	20.66	48,011.96
1959	94,534.84	65.00	1,454.37	21.13	30,733.48
1960	115,227.74	65.00	1,772.72	21.61	38,305.99
1961	138,501.46	65.00	2,130.77	22.10	47,079.73
1962	131,123.44	65.00	2,017.26	22.59	45,565.73
1963	106,501.00	65.00	1,638.46	23.09	37,833.32
1964	89,303.38	65.00	1,373.88	23.60	32,422.79
1965	192,759.46	65.00	2,965.50	24.12	71,523.30
1966	314,916.78	65.00	4,844.82	24.64	119,399.48
1967	813,948.83	65.00	12,522.16	25.18	315,280.69
1968	337,500.36	65.00	5,192.26	25.72	133,544.84
1969	375,996.66	65.00	5,784.50	26.27	151,950.02
1970	397,289.10	65.00	6,112.08	26.83	163,964.01
1971	484,936.05	65.00	7,460.48	27.39	204,341.19
1972	712,692.57	65.00	10,964.39	27.96	306,596.11

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Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	1,247,728.60	65.00	19,195.62	28.54	547,867.58
1974	548,968.59	65.00	8,445.58	29.13	246,013.93
1975	324,790.36	65.00	4,996.72	29.72	148,513.09
1976	198,566.08	65.00	3,054.83	30.32	92,636.78
1977	318,411.98	65.00	4,898.59	30.93	151,520.96
1978	375,987.74	65.00	5,784.37	31.55	182,486.53
1979	368,875.89	65.00	5,674.95	32.17	182,568.17
1980	358,492.35	65.00	5,515.21	32.80	180,893.54
1981	344,878.84	65.00	5,305.77	33.44	177,399.18
1982	258,271.11	65.00	3,973.36	34.08	135,397.18
1983	409,913.45	65.00	6,306.30	34.73	218,988.17
1985	858,211.76	65.00	13,203.12	36.04	475,847.26
1986	1,080,310.11	65.00	16,619.98	36.71	610,054.98
1988	1,275,732.42	65.00	19,626.45	38.06	746,919.87
1989	1,024,705.32	65.00	15,764.53	38.74	610,747.52
1991	1,542,593.00	65.00	23,731.95	40.13	952,268.31
1992	1,098,095.22	65.00	16,893.60	40.83	689,705.31
1994	709,687.42	65.00	10,918.15	42.24	461,200.21
1995	994,720.35	65.00	15,303.23	42.96	657,362.99
1996	386,759.14	65.00	5,950.08	43.68	259,876.08
1997	752,540.26	65.00	11,577.42	44.40	514,031.65
1998	1,286,137.91	65.00	19,786.53	45.13	892,943.47
1999	796,839.79	65.00	12,258.95	45.86	562,207.10
2000	1,381,842.30	65.00	21,258.89	46.60	990,641.77
2001	2,612,225.64	65.00	40,187.67	47.34	1,902,455.55
2002	1,968,670.79	65.00	30,286.93	48.09	1,456,359.86
2003	652,712.88	65.00	10,041.63	48.83	490,369.09

FE 2023 Study - Metropolitan Edison
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	86,947.20	65.00	1,337.64	49.59	66,330.04
2005	30,813.79	65.00	474.05	50.34	23,866.04
2006	6,229.58	65.00	95.84	51.10	4,897.80
2007	24,933.82	65.00	383.59	51.87	19,896.68
2008	142,291.89	65.00	2,189.08	52.64	115,225.71
2009	4,496.65	65.00	69.18	53.41	3,694.72
2010	47,059.64	65.00	723.99	54.18	39,227.82
2011	57,120.94	65.00	878.77	54.96	48,299.59
2012	247,776.29	65.00	3,811.90	55.74	212,491.34
2013	164,035.07	65.00	2,523.59	56.53	142,660.78
2014	129,141.13	65.00	1,986.77	57.32	113,880.96
2015	452,668.25	65.00	6,964.05	58.11	404,707.54
2016	529,623.67	65.00	8,147.97	58.91	479,995.20
2017	598,220.64	65.00	9,203.30	59.71	549,538.64
2018	685,357.52	65.00	10,543.85	60.52	638,065.23
2019	738,277.13	65.00	11,357.99	61.32	696,501.49
2020	465,043.77	65.00	7,154.45	62.13	444,535.05
2021	564,016.12	65.00	8,677.08	62.95	546,207.71
2022	652,769.79	65.00	10,042.51	63.77	640,380.49
2023	461,706.52	65.00	7,103.10	64.59	458,776.50
Total	35,459,379.59	65.00	545,523.23	41.03	22,382,980.92

Composite Average Remaining Life ... 41.03 Years

FE 2023 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1944	6,657.03	50.00	133.14	3.63	483.40
1945	134,229.24	50.00	2,684.57	3.92	10,518.57
1947	10,534.14	50.00	210.68	4.50	947.16
1948	14,274.98	50.00	285.50	4.79	1,366.22
1949	51,284.52	50.00	1,025.69	5.08	5,206.07
1950	36,076.89	50.00	721.53	5.37	3,872.31
1951	30,151.30	50.00	603.02	5.66	3,412.46
1958	830.64	50.00	16.61	7.78	129.28
1959	71.49	50.00	1.43	8.11	11.59
1960	290.52	50.00	5.81	8.44	49.01
1962	71.49	50.00	1.43	9.12	13.04
1963	726.30	50.00	14.53	9.47	137.61
1964	548.10	50.00	10.96	9.84	107.84
1965	67,460.94	50.00	1,349.21	10.21	13,778.12
1966	69,848.67	50.00	1,396.97	10.60	14,802.70
1967	154,972.50	50.00	3,099.44	10.99	34,066.74
1968	170,110.09	50.00	3,402.19	11.40	38,775.19
1969	158,787.51	50.00	3,175.74	11.81	37,518.76
1970	221,195.16	50.00	4,423.89	12.24	54,160.07
1971	468,539.67	50.00	9,370.76	12.68	118,846.41
1972	461,305.26	50.00	9,226.07	13.13	121,179.44
1973	640,578.57	50.00	12,811.52	13.60	174,211.83
1974	712,005.47	50.00	14,240.05	14.07	200,408.26
1975	405,579.04	50.00	8,111.55	14.56	118,112.24
1976	485,772.85	50.00	9,715.42	15.06	146,317.92
1977	627,839.55	50.00	12,556.74	15.57	195,529.83
1978	625,904.35	50.00	12,518.04	16.09	201,476.61

FE 2023 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1979	777,877.41	50.00	15,557.49	16.63	258,719.95
1980	684,600.95	50.00	13,691.96	17.18	235,182.81
1981	628,058.80	50.00	12,561.12	17.74	222,772.88
1982	695,986.43	50.00	13,919.67	18.31	254,799.96
1983	829,649.32	50.00	16,592.92	18.89	313,379.26
1984	1,068,068.91	50.00	21,361.29	19.48	416,093.62
1985	2,063,075.59	50.00	41,261.34	20.08	828,629.92
1986	2,594,366.04	50.00	51,887.11	20.70	1,073,907.96
1987	3,102,908.54	50.00	62,057.92	21.32	1,323,216.45
1988	3,457,223.44	50.00	69,144.19	21.96	1,518,276.23
1989	4,185,806.02	50.00	83,715.78	22.60	1,892,340.43
1990	5,588,467.80	50.00	111,768.90	23.26	2,599,831.35
1991	6,331,319.08	50.00	126,625.87	23.93	3,029,805.09
1992	4,445,932.50	50.00	88,918.29	24.60	2,187,701.70
1993	3,817,769.19	50.00	76,355.07	25.29	1,930,977.28
1994	4,870,267.25	50.00	97,404.95	25.98	2,531,052.42
1995	4,298,734.97	50.00	85,974.35	26.69	2,294,615.66
1996	2,308,895.87	50.00	46,177.73	27.40	1,265,424.00
1997	4,439,096.67	50.00	88,781.57	28.13	2,497,077.38
1998	7,418,005.12	50.00	148,359.50	28.86	4,281,297.06
1999	4,400,186.89	50.00	88,003.38	29.60	2,604,696.81
2000	4,363,920.56	50.00	87,278.06	30.35	2,648,560.08
2001	4,996,437.28	50.00	99,928.34	31.10	3,108,075.69
2002	4,266,435.35	50.00	85,328.36	31.87	2,719,241.86
2003	5,999,410.32	50.00	119,987.72	32.64	3,916,502.77
2004	8,390,016.93	50.00	167,799.66	33.42	5,608,127.14
2005	8,930,329.20	50.00	178,605.86	34.21	6,110,093.41

FE 2023 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	14,423,834.75	50.00	288,475.52	35.01	10,098,318.08
2007	8,247,995.29	50.00	164,959.24	35.81	5,907,033.04
2008	7,191,914.82	50.00	143,837.71	36.62	5,267,267.43
2009	6,663,913.64	50.00	133,277.73	37.44	4,989,527.79
2010	8,365,381.12	50.00	167,306.94	38.26	6,401,425.59
2011	8,210,430.16	50.00	164,207.94	39.09	6,419,358.38
2012	12,696,498.68	50.00	253,928.94	39.93	10,139,591.38
2013	11,960,332.58	50.00	239,205.68	40.78	9,753,684.64
2014	12,480,619.23	50.00	249,611.37	41.63	10,390,362.42
2015	15,174,180.11	50.00	303,482.37	42.48	12,892,920.33
2016	14,140,704.64	50.00	282,812.94	43.35	12,258,938.58
2017	12,860,192.88	50.00	257,202.81	44.22	11,372,377.79
2018	13,538,320.04	50.00	270,765.30	45.09	12,208,960.87
2019	10,439,225.54	50.00	208,783.66	45.97	9,598,033.60
2020	13,695,541.99	50.00	273,909.73	46.86	12,834,680.07
2021	12,915,468.39	50.00	258,308.32	47.75	12,333,926.60
2022	11,869,399.02	50.00	237,387.02	48.65	11,547,834.92
2023	12,925,148.27	50.00	258,501.92	49.55	12,808,106.19
Total	318,307,593.85	50.00	6,366,126.02	37.13	236,388,185.55

Composite Average Remaining Life ... 37.13 Years

FE 2023 Study - Metropolitan Edison
Electric Division
367.10 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	190,491.79	50.00	3,809.82	32.64	124,355.83
2008	2,556.67	50.00	51.13	36.62	1,872.47
2011	76,119.41	50.00	1,522.38	39.09	59,514.27
2012	452,100.91	50.00	9,041.98	39.93	361,053.75
2013	183,392.81	50.00	3,667.84	40.78	149,557.35
2014	271,554.50	50.00	5,431.07	41.63	226,074.49
2018	62,756.59	50.00	1,255.13	45.09	56,594.37
2019	0.02	50.00	0.00	45.97	0.02
2022	216,849.93	50.00	4,336.98	48.65	210,975.06
2023	80,721.38	50.00	1,614.42	49.55	79,990.42
Total	1,536,544.01	50.00	30,730.76	41.33	1,269,988.04

Composite Average Remaining Life ... 41.33 Years

FE 2023 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 43 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1965	227.62	43.00	5.29	7.89	41.75
1968	1,006,892.08	43.00	23,415.75	8.86	207,372.63
1969	1,023,185.53	43.00	23,794.66	9.20	218,793.49
1970	1,482,673.63	43.00	34,480.27	9.54	328,993.36
1971	1,371,808.44	43.00	31,902.05	9.90	315,768.07
1972	2,039,763.72	43.00	47,435.66	10.26	486,898.43
1973	2,727,304.67	43.00	63,424.75	10.64	674,874.16
1974	3,116,984.41	43.00	72,486.93	11.03	799,363.29
1975	1,058,533.72	43.00	24,616.70	11.43	281,265.95
1976	1,548,076.61	43.00	36,001.25	11.84	426,090.88
1977	2,518,703.91	43.00	58,573.64	12.26	717,914.17
1978	3,437,446.45	43.00	79,939.42	12.69	1,014,390.29
1979	2,945,880.88	43.00	68,507.84	13.13	899,842.79
1980	2,175,204.86	43.00	50,585.41	13.59	687,558.73
1981	2,034,988.40	43.00	47,324.61	14.06	665,439.84
1982	2,429,031.11	43.00	56,488.25	14.54	821,470.26
1983	2,963,365.23	43.00	68,914.44	15.04	1,036,276.84
1984	4,906,818.04	43.00	114,110.35	15.54	1,773,601.67
1985	3,955,331.57	43.00	91,983.09	16.06	1,477,285.74
1986	6,316,593.60	43.00	146,895.34	16.59	2,437,232.64
1987	6,860,261.27	43.00	159,538.58	17.13	2,733,414.84
1988	7,810,145.21	43.00	181,628.58	17.69	3,212,338.54
1989	7,615,535.49	43.00	177,102.84	18.25	3,232,595.91
1990	7,851,895.13	43.00	182,599.49	18.83	3,438,134.88
1991	6,354,596.22	43.00	147,779.11	19.42	2,869,260.88
1992	4,994,544.95	43.00	116,150.48	20.02	2,324,817.93
1993	6,292,668.07	43.00	146,338.94	20.62	3,018,164.24

FE 2023 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	6,677,618.58	43.00	155,291.14	21.24	3,298,936.06
1995	6,592,723.11	43.00	153,316.86	21.87	3,353,724.27
1996	5,073,370.27	43.00	117,983.60	22.51	2,656,273.76
1997	6,579,466.72	43.00	153,008.58	23.16	3,544,104.17
1998	6,191,156.72	43.00	143,978.24	23.82	3,429,926.18
1999	6,192,496.03	43.00	144,009.39	24.49	3,526,807.82
2000	9,352,887.85	43.00	217,505.78	25.17	5,473,810.96
2001	10,646,368.58	43.00	247,586.28	25.85	6,400,678.08
2002	9,189,454.21	43.00	213,705.06	26.55	5,672,896.26
2003	11,230,519.84	43.00	261,170.99	27.25	7,115,936.04
2004	19,787,948.46	43.00	460,178.00	27.96	12,864,696.29
2005	26,555,658.88	43.00	617,564.27	28.67	17,706,740.26
2006	20,284,318.91	43.00	471,721.32	29.39	13,866,103.80
2007	24,924,579.92	43.00	579,632.76	30.13	17,461,594.63
2008	21,402,703.18	43.00	497,729.87	30.86	15,360,672.83
2009	19,946,177.14	43.00	463,857.68	31.60	14,659,604.76
2010	13,961,023.87	43.00	324,670.14	32.35	10,503,971.23
2011	9,299,973.41	43.00	216,275.23	33.11	7,160,199.81
2012	13,077,014.37	43.00	304,112.08	33.87	10,299,209.49
2013	10,464,129.94	43.00	243,348.24	34.63	8,427,754.16
2014	9,343,684.62	43.00	217,291.76	35.40	7,692,868.87
2015	11,169,204.90	43.00	259,745.08	36.18	9,397,497.65
2016	9,488,546.56	43.00	220,660.59	36.96	8,156,104.92
2017	10,184,249.08	43.00	236,839.47	37.75	8,940,610.84
2018	13,993,739.74	43.00	325,430.96	38.54	12,542,890.18
2019	16,429,041.98	43.00	382,065.05	39.34	15,030,916.75
2020	17,093,215.29	43.00	397,510.72	40.15	15,958,069.85

FE 2023 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	13,919,158.17	43.00	323,696.53	40.95	13,256,662.37
2022	17,002,999.79	43.00	395,412.71	41.77	16,515,969.18
2023	18,433,988.76	43.00	428,691.03	42.59	18,257,430.12
Total	491,325,879.70	43.00	11,426,013.10	29.29	334,631,863.77

Composite Average Remaining Life ... 29.29 Years

FE 2023 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1950	3,197.07	44.00	72.66	4.74	344.17
1951	6,382.97	44.00	145.06	5.04	731.80
1952	14,321.18	44.00	325.47	5.36	1,743.53
1953	31,870.48	44.00	724.31	5.67	4,105.70
1954	44,332.08	44.00	1,007.52	5.99	6,034.83
1955	59,659.35	44.00	1,355.86	6.32	8,564.06
1956	74,611.83	44.00	1,695.68	6.65	11,267.95
1957	82,782.48	44.00	1,881.37	6.98	13,134.98
1958	93,798.76	44.00	2,131.74	7.32	15,612.15
1959	101,257.66	44.00	2,301.25	7.67	17,653.70
1960	121,167.59	44.00	2,753.74	8.02	22,091.51
1961	127,430.90	44.00	2,896.08	8.38	24,271.94
1962	130,153.89	44.00	2,957.97	8.75	25,868.62
1963	150,739.44	44.00	3,425.81	9.11	31,225.08
1964	172,724.54	44.00	3,925.46	9.49	37,255.23
1965	215,257.48	44.00	4,892.09	9.87	48,298.80
1966	272,866.73	44.00	6,201.36	10.26	63,633.30
1967	334,885.74	44.00	7,610.85	10.66	81,094.99
1968	391,523.80	44.00	8,898.05	11.06	98,377.46
1969	419,365.06	44.00	9,530.79	11.46	109,255.87
1970	438,607.05	44.00	9,968.09	11.88	118,395.41
1971	437,169.32	44.00	9,935.42	12.30	122,185.63
1972	463,635.73	44.00	10,536.91	12.73	134,087.32
1973	545,306.09	44.00	12,393.01	13.16	163,090.55
1974	515,309.84	44.00	11,711.30	13.60	159,288.34
1975	462,834.65	44.00	10,518.71	14.05	147,789.64
1976	542,291.08	44.00	12,324.49	14.51	178,779.51

FE 2023 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1977	588,321.52	44.00	13,370.61	14.97	200,147.13
1978	693,945.81	44.00	15,771.10	15.44	243,510.90
1979	742,011.43	44.00	16,863.48	15.92	268,443.12
1980	751,805.76	44.00	17,086.07	16.40	280,287.40
1981	777,985.81	44.00	17,681.06	16.90	298,772.18
1982	791,015.22	44.00	17,977.17	17.40	312,802.65
1983	772,907.57	44.00	17,565.64	17.91	314,587.13
1984	746,395.69	44.00	16,963.12	18.43	312,566.06
1985	793,425.74	44.00	18,031.95	18.95	341,739.58
1986	872,034.62	44.00	19,818.48	19.48	386,162.29
1987	1,021,544.36	44.00	23,216.34	20.03	464,927.06
1988	1,138,215.90	44.00	25,867.90	20.57	532,220.22
1989	1,689,309.94	44.00	38,392.45	21.13	811,315.99
1990	1,602,844.16	44.00	36,427.37	21.70	790,360.27
1991	1,321,145.53	44.00	30,025.29	22.27	668,640.53
1992	1,166,461.00	44.00	26,509.82	22.85	605,727.83
1993	1,236,750.07	44.00	28,107.26	23.44	658,777.63
1994	1,764,654.34	44.00	40,104.78	24.03	963,848.88
1995	1,994,643.17	44.00	45,331.67	24.64	1,116,778.77
1996	2,562,977.16	44.00	58,248.03	25.25	1,470,484.09
1997	2,236,069.89	44.00	50,818.51	25.86	1,314,322.48
1998	2,331,340.65	44.00	52,983.70	26.49	1,403,352.01
1999	1,857,372.88	44.00	42,211.97	27.12	1,144,631.46
2000	1,418,608.45	44.00	32,240.30	27.75	894,774.40
2001	2,163,446.94	44.00	49,168.02	28.40	1,396,150.99
2002	1,995,578.33	44.00	45,352.92	29.04	1,317,197.10
2003	889,347.61	44.00	20,211.94	29.70	600,219.77

FE 2023 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	66,529.60	44.00	1,512.00	30.36	45,897.30
2005	628.70	44.00	14.29	31.02	443.20
2006	1,499,257.76	44.00	34,073.19	31.69	1,079,633.98
2007	1,251,076.72	44.00	28,432.85	32.36	920,025.78
2008	2,264,035.07	44.00	51,454.06	33.03	1,699,700.68
2009	4,329,667.73	44.00	98,399.09	33.71	3,317,272.52
2010	1,866,289.80	44.00	42,414.62	34.39	1,458,845.55
2011	1,681,426.80	44.00	38,213.29	35.08	1,340,574.53
2012	3,333,656.34	44.00	75,763.03	35.77	2,710,100.09
2013	2,496,011.51	44.00	56,726.12	36.46	2,068,438.40
2014	2,731,981.28	44.00	62,088.94	37.16	2,307,231.77
2015	2,822,748.13	44.00	64,151.77	37.86	2,428,876.84
2016	2,078,015.22	44.00	47,226.44	38.57	1,821,343.32
2017	1,837,635.64	44.00	41,763.41	39.28	1,640,263.28
2018	2,772,344.84	44.00	63,006.27	39.99	2,519,522.45
2019	4,517,769.55	44.00	102,674.02	40.71	4,179,596.34
2020	3,733,941.60	44.00	84,860.20	41.43	3,515,787.65
2021	4,233,078.86	44.00	96,203.94	42.16	4,055,775.66
2022	6,183,630.16	44.00	140,533.55	42.89	6,027,729.11
2023	3,437,969.20	44.00	78,133.72	43.63	3,408,974.30
Total	95,311,336.85	44.00	2,166,112.83	31.07	67,302,962.75

Composite Average Remaining Life ... 31.07 Years

FE 2023 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1949	234.49	60.00	3.91	6.80	26.59
1950	360.43	60.00	6.01	7.10	42.63
1951	619.42	60.00	10.32	7.39	76.26
1952	1,356.03	60.00	22.60	7.69	173.79
1953	1,453.15	60.00	24.22	8.00	193.85
1954	2,829.91	60.00	47.17	8.33	392.94
1955	4,201.42	60.00	70.02	8.67	606.95
1956	5,793.20	60.00	96.55	9.02	870.87
1957	9,284.40	60.00	154.74	9.38	1,451.81
1958	6,720.49	60.00	112.01	9.76	1,093.18
1959	9,434.45	60.00	157.24	10.15	1,596.35
1960	10,447.20	60.00	174.12	10.56	1,838.55
1961	7,970.39	60.00	132.84	10.98	1,458.84
1962	11,208.16	60.00	186.80	11.42	2,133.32
1963	8,580.03	60.00	143.00	11.87	1,697.85
1964	17,246.36	60.00	287.44	12.34	3,547.99
1965	58,402.02	60.00	973.37	12.83	12,487.61
1966	72,713.94	60.00	1,211.90	13.33	16,153.97
1967	82,651.71	60.00	1,377.53	13.85	19,075.66
1968	149,924.70	60.00	2,498.75	14.38	35,926.74
1969	150,378.73	60.00	2,506.31	14.93	37,414.75
1970	165,513.82	60.00	2,758.57	15.49	42,738.41
1971	185,954.85	60.00	3,099.25	16.07	49,810.94
1972	275,033.84	60.00	4,583.90	16.66	76,384.42
1973	439,419.02	60.00	7,323.66	17.27	126,496.23
1974	407,244.62	60.00	6,787.41	17.89	121,431.49
1975	415,788.13	60.00	6,929.81	18.53	128,392.47

FE 2023 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1976	451,734.20	60.00	7,528.91	19.18	144,379.37
1977	455,739.74	60.00	7,595.67	19.84	150,680.27
1978	634,633.88	60.00	10,577.24	20.51	216,930.78
1979	778,106.73	60.00	12,968.45	21.20	274,868.39
1980	700,657.81	60.00	11,677.64	21.89	255,610.73
1981	702,833.01	60.00	11,713.89	22.60	264,714.00
1982	640,250.79	60.00	10,670.85	23.32	248,820.09
1983	787,475.81	60.00	13,124.61	24.05	315,607.28
1984	1,304,795.18	60.00	21,746.60	24.78	538,989.36
1985	1,671,567.36	60.00	27,859.47	25.54	711,394.36
1986	2,060,103.24	60.00	34,335.08	26.29	902,728.54
1987	2,378,586.84	60.00	39,643.14	27.06	1,072,809.19
1988	3,482,732.94	60.00	58,045.59	27.84	1,616,001.04
1989	4,747,792.54	60.00	79,129.93	28.63	2,265,271.89
1990	5,752,239.55	60.00	95,870.72	29.42	2,820,701.02
1991	5,351,575.92	60.00	89,192.99	30.23	2,696,051.63
1992	5,024,951.97	60.00	83,749.26	31.04	2,599,431.82
1993	5,326,604.95	60.00	88,776.81	31.86	2,828,522.44
1994	5,959,287.82	60.00	99,321.53	32.69	3,246,974.19
1995	4,854,872.11	60.00	80,914.59	33.53	2,713,038.60
1996	5,604,433.92	60.00	93,407.30	34.37	3,210,844.03
1997	4,820,046.35	60.00	80,334.16	35.23	2,830,094.51
1998	5,569,268.02	60.00	92,821.20	36.09	3,349,800.20
1999	5,800,198.56	60.00	96,670.04	36.96	3,572,798.44
2000	4,867,084.44	60.00	81,118.13	37.84	3,069,142.69
2001	6,577,388.79	60.00	109,623.22	38.72	4,244,496.23
2002	5,555,590.19	60.00	92,593.23	39.61	3,667,477.45

FE 2023 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	2,570,996.58	60.00	42,849.97	40.51	1,735,681.46
2004	16,249.04	60.00	270.82	41.41	11,214.07
2006	2,169,818.48	60.00	36,163.67	43.24	1,563,548.88
2007	2,725,047.54	60.00	45,417.49	44.16	2,005,454.91
2008	2,214,733.27	60.00	36,912.25	45.08	1,664,159.45
Total	104,058,162.48	60.00	1,734,303.88	33.15	57,491,751.74

Composite Average Remaining Life ... *33.15 Years*

FE 2023 Study - Metropolitan Edison
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 15 **Survivor Curve:** S2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2008	13,815.36	15.00	921.02	3.62	3,335.35
2011	44.02	15.00	2.93	4.92	14.42
2013	59,521.78	15.00	3,968.12	5.99	23,779.94
2014	17,440.22	15.00	1,162.68	6.61	7,686.06
2015	1,489,860.53	15.00	99,324.04	7.29	723,654.31
2016	17,969,441.42	15.00	1,197,962.81	8.02	9,610,578.34
2017	26,992,368.44	15.00	1,799,491.30	8.82	15,870,858.67
2018	37,072,709.13	15.00	2,471,514.04	9.67	23,910,049.80
2019	28,095,974.06	15.00	1,873,065.01	10.58	19,819,597.06
2020	9,552,251.20	15.00	636,816.77	11.53	7,342,438.50
2021	8,017,093.75	15.00	534,472.94	12.51	6,684,768.53
2022	6,247,996.91	15.00	416,533.14	13.50	5,623,525.80
2023	6,176,715.29	15.00	411,781.04	14.50	5,970,827.07
Total	141,705,232.11	15.00	9,447,015.83	10.12	95,591,113.84

Composite Average Remaining Life ... 10.12 Years

FE 2023 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 37 **Survivor Curve:** R0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1962	10,202.86	37.00	275.74	5.63	1,552.70
1963	25,482.82	37.00	688.70	6.03	4,155.22
1964	11,474.02	37.00	310.10	6.43	1,994.19
1965	14,759.12	37.00	398.88	6.83	2,723.12
1966	8,124.17	37.00	219.56	7.22	1,585.77
1972	5,105.56	37.00	137.98	9.61	1,326.65
1973	7,103.35	37.00	191.98	10.02	1,923.91
1974	5,657.76	37.00	152.91	10.43	1,595.19
1975	2,541.90	37.00	68.70	10.85	745.15
1976	2,882.51	37.00	77.90	11.27	877.62
1977	3,877.42	37.00	104.79	11.69	1,224.91
1978	4,404.81	37.00	119.04	12.12	1,442.47
1979	7,011.71	37.00	189.50	12.55	2,378.24
1980	9,257.03	37.00	250.18	12.99	3,249.49
1981	12,981.04	37.00	350.83	13.43	4,712.44
1982	10,778.01	37.00	291.29	13.88	4,043.62
1983	10,838.83	37.00	292.93	14.34	4,199.80
1984	12,184.60	37.00	329.30	14.80	4,873.08
1985	17,559.46	37.00	474.56	15.27	7,244.44
1986	13,721.29	37.00	370.83	15.74	5,836.48
1987	11,695.15	37.00	316.07	16.22	5,126.12
1988	16,612.97	37.00	448.98	16.70	7,499.82
1989	45,370.25	37.00	1,226.18	17.20	21,085.51
1990	134,957.55	37.00	3,647.37	17.69	64,536.80
1991	172,319.99	37.00	4,657.12	18.20	84,754.43
1992	208,554.64	37.00	5,636.40	18.71	105,456.29
1993	349,788.74	37.00	9,453.40	19.23	181,760.01

FE 2023 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 37 **Survivor Curve:** R0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1994	132,074.29	37.00	3,569.44	19.75	70,495.83
1995	145,508.85	37.00	3,932.53	20.28	79,748.39
1996	137,371.20	37.00	3,712.60	20.81	77,275.29
1997	88,307.81	37.00	2,386.61	21.35	50,965.55
1998	287,514.97	37.00	7,770.39	21.90	170,182.60
1999	56,029.53	37.00	1,514.26	22.45	34,000.12
2000	49,930.73	37.00	1,349.43	23.01	31,050.20
2001	58,557.25	37.00	1,582.57	23.57	37,304.39
2002	29,852.70	37.00	806.80	24.14	19,475.15
2003	62,627.37	37.00	1,692.57	24.71	41,823.02
2004	267,338.60	37.00	7,225.10	25.28	182,683.66
2005	190,769.76	37.00	5,155.75	25.86	133,346.41
2006	223,633.90	37.00	6,043.93	26.45	159,838.47
2007	62,545.09	37.00	1,690.34	27.03	45,692.28
2008	92,123.82	37.00	2,489.74	27.62	68,766.43
2009	76,812.36	37.00	2,075.93	28.21	58,564.10
2010	134,109.47	37.00	3,624.45	28.80	104,399.50
2011	119,402.77	37.00	3,226.98	29.40	94,871.31
2012	181,541.12	37.00	4,906.33	30.00	147,173.46
2013	67,402.82	37.00	1,821.63	30.60	55,733.69
2014	95,644.23	37.00	2,584.88	31.20	80,637.56
2015	80,019.86	37.00	2,162.62	31.80	68,767.45
2016	52,661.88	37.00	1,423.24	32.40	46,116.51
2017	41,428.62	37.00	1,119.65	33.01	36,957.80
2018	29,164.15	37.00	788.19	33.62	26,496.34
2019	75,023.12	37.00	2,027.58	34.23	69,397.94
2020	62,807.30	37.00	1,697.43	34.84	59,137.78

FE 2023 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *37* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	40,521.79	37.00	1,095.14	35.45	38,827.35
2022	59,068.17	37.00	1,596.38	36.07	57,583.47
2023	38,097.20	37.00	1,029.62	36.69	37,777.46
Total	4,173,138.29	37.00	112,783.33	24.05	2,712,993.02

Composite Average Remaining Life ... 24.05 Years

FE 2023 Study - Metropolitan Edison
Electric Division
371.21 Installations - Meter Socket Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	403,401.79	25.00	16,135.94	5.33	86,060.09
1998	8,805.95	25.00	352.24	5.76	2,027.59
Total	412,207.74	25.00	16,488.17	5.34	88,087.68

Composite Average Remaining Life ... 5.34 Years

FE 2023 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 28 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	20,836.32	0.00	0.00	0.00	0.00
1951	575.52	0.00	0.00	0.00	0.00
1952	2,713.67	0.00	0.00	0.00	0.00
1953	2,886.60	0.00	0.00	0.00	0.00
1954	6,060.47	0.00	0.00	0.00	0.00
1955	1,165.84	0.00	0.00	0.00	0.00
1956	1,857.10	0.00	0.00	0.00	0.00
1957	166.45	0.00	0.00	0.00	0.00
1958	5,453.83	0.00	0.00	0.00	0.00
1959	993.48	0.00	0.00	0.00	0.00
1960	9,148.80	0.00	0.00	0.00	0.00
1961	11,740.08	0.00	0.00	0.00	0.00
1962	3,823.63	0.00	0.00	0.00	0.00
1963	8,418.71	0.00	0.00	0.00	0.00
1964	15,859.31	0.00	0.00	0.00	0.00
1965	51,138.75	0.00	0.00	0.00	0.00
1966	8,285.65	0.00	0.00	0.00	0.00
1967	18,777.03	0.00	0.00	0.00	0.00
1968	31,919.12	28.00	1,139.92	0.50	569.96
1969	48,811.43	28.00	1,743.19	0.69	1,195.08
1970	23,110.15	28.00	825.33	0.97	803.76
1971	27,397.22	28.00	978.43	1.30	1,269.50
1972	24,805.48	28.00	885.87	1.62	1,436.35
1973	44,340.66	28.00	1,583.53	1.92	3,045.68
1974	12,205.58	28.00	435.90	2.22	967.92
1975	5,756.54	28.00	205.58	2.51	516.28
1976	7,060.47	28.00	252.15	2.81	708.45

FE 2023 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 28 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1977	10,348.79	28.00	369.58	3.11	1,148.99
1978	6,178.44	28.00	220.65	3.42	754.44
1979	5,120.26	28.00	182.86	3.73	682.62
1980	2,220.51	28.00	79.30	4.06	321.68
1981	1,697.04	28.00	60.61	4.39	266.04
1982	3,205.09	28.00	114.46	4.73	541.38
1983	1,863.02	28.00	66.53	5.08	338.00
1984	1,169.29	28.00	41.76	5.44	227.08
1985	3,335.86	28.00	119.13	5.81	691.65
1986	2,517.85	28.00	89.92	6.18	555.98
1987	3,385.34	28.00	120.90	6.57	794.29
1988	3,067.58	28.00	109.55	6.97	763.23
1989	2,267.18	28.00	80.97	7.37	597.03
1990	6,917.65	28.00	247.05	7.79	1,924.81
1991	11,848.83	28.00	423.15	8.22	3,478.09
1992	18,610.94	28.00	664.65	8.66	5,754.90
1993	53,685.46	28.00	1,917.26	9.11	17,464.67
1994	89,216.78	28.00	3,186.18	9.57	30,496.02
1995	34,974.86	28.00	1,249.05	10.05	12,546.72
1996	39,135.99	28.00	1,397.65	10.53	14,718.74
1997	68,883.70	28.00	2,460.03	11.03	27,131.00
1998	203,381.59	28.00	7,263.32	11.54	83,814.11
1999	535,088.67	28.00	19,109.50	12.06	230,503.68
2000	345,462.40	28.00	12,337.42	12.60	155,418.78
2001	467,189.24	28.00	16,684.62	13.15	219,324.85
2002	262,622.97	28.00	9,379.00	13.71	128,541.44
2003	338,050.35	28.00	12,072.72	14.28	172,374.96

FE 2023 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *28* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	559,743.55	28.00	19,990.00	14.86	297,096.48
2005	435,956.46	28.00	15,569.22	15.46	240,685.18
2006	655,563.83	28.00	23,412.00	16.07	376,145.50
2007	273,386.43	28.00	9,763.39	16.69	162,907.67
2008	389,820.40	28.00	13,921.57	17.31	241,050.48
2009	420,854.48	28.00	15,029.88	17.95	269,838.86
2010	544,201.86	28.00	19,434.96	18.60	361,522.62
2011	895,467.54	28.00	31,979.63	19.26	615,849.21
2012	628,607.65	28.00	22,449.32	19.92	447,225.97
2013	799,816.12	28.00	28,563.65	20.59	588,187.33
2014	631,700.92	28.00	22,559.79	21.27	479,815.32
2015	663,231.44	28.00	23,685.84	21.95	519,925.09
2016	672,440.61	28.00	24,014.72	22.64	543,649.06
2017	844,853.98	28.00	30,172.08	23.33	703,955.48
2018	631,083.62	28.00	22,537.75	24.03	541,583.83
2019	741,072.83	28.00	26,465.77	24.74	654,651.90
2020	664,950.83	28.00	23,747.24	25.45	604,314.12
2021	477,406.22	28.00	17,049.50	26.17	446,146.54
2022	755,327.94	28.00	26,974.86	26.90	725,493.26
2023	1,088,993.38	28.00	38,890.98	27.63	1,074,567.48
Total	15,691,233.66	21.19	554,309.86	19.87	11,016,299.56

Composite Average Remaining Life ... 19.87 Years

FE 2023 Study - Metropolitan Edison
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *S0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	1,001.91	20.00	50.09	13.78	690.20
2016	141,675.74	20.00	7,083.67	14.38	101,860.13
2017	573,554.47	20.00	28,677.24	15.00	430,267.94
2018	620,864.30	20.00	31,042.69	15.66	485,993.59
2019	335,129.67	20.00	16,756.20	16.34	273,772.48
2020	513,329.27	20.00	25,666.03	17.06	437,830.24
2021	395,453.96	20.00	19,772.36	17.82	352,345.51
2022	122,795.16	20.00	6,139.65	18.64	114,423.65
2023	721,630.51	20.00	36,080.91	19.52	704,281.98
Total	3,425,434.99	20.00	171,268.84	16.94	2,901,465.70

Composite Average Remaining Life ... 16.94 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 *Survivor Curve:* R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1904	69.28	75.00	0.92	1.73	1.60
1908	904.08	75.00	12.05	2.70	32.57
1921	26.62	75.00	0.35	6.02	2.14
1930	98.98	75.00	1.32	8.40	11.09
1931	608.47	75.00	8.11	8.68	70.41
1932	325.59	75.00	4.34	8.97	38.94
1940	105.63	75.00	1.41	11.59	16.32
1942	28.24	75.00	0.38	12.34	4.65
1943	1,423,322.28	75.00	18,977.63	12.74	241,747.16
1944	28,517.33	75.00	380.23	13.15	4,998.38
1945	80,533.28	75.00	1,073.78	13.56	14,565.19
1946	124,850.81	75.00	1,664.68	14.00	23,301.21
1947	151,003.07	75.00	2,013.37	14.44	29,075.77
1948	129,668.51	75.00	1,728.91	14.90	25,755.90
1949	122,814.60	75.00	1,637.53	15.37	25,166.77
1950	88,644.99	75.00	1,181.93	15.85	18,734.20
1951	155,766.99	75.00	2,076.89	16.34	33,945.00
1952	154,106.35	75.00	2,054.75	16.85	34,631.60
1953	199,396.55	75.00	2,658.62	17.37	46,190.92
1954	295,163.96	75.00	3,935.52	17.91	70,466.62
1955	235,325.32	75.00	3,137.67	18.45	57,900.79
1956	172,589.35	75.00	2,301.19	19.01	43,745.98
1957	170,890.22	75.00	2,278.54	19.58	44,609.26
1958	191,989.29	75.00	2,559.86	20.16	51,613.17
1959	220,233.48	75.00	2,936.45	20.75	60,945.43
1960	270,234.57	75.00	3,603.13	21.36	76,954.44
1961	309,027.67	75.00	4,120.37	21.98	90,551.24

FE 2023 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1962	206,758.28	75.00	2,756.78	22.60	62,309.77
1963	307,932.18	75.00	4,105.76	23.24	95,410.31
1964	223,083.10	75.00	2,974.44	23.89	71,056.37
1965	166,918.03	75.00	2,225.57	24.55	54,629.50
1966	173,075.94	75.00	2,307.68	25.21	58,182.69
1967	188,909.13	75.00	2,518.79	25.89	65,219.37
1968	168,064.11	75.00	2,240.85	26.58	59,560.85
1969	222,760.80	75.00	2,970.14	27.27	81,008.66
1970	188,958.54	75.00	2,519.45	27.98	70,499.90
1971	168,230.78	75.00	2,243.08	28.70	64,366.52
1972	290,535.79	75.00	3,873.81	29.42	113,955.12
1973	220,725.65	75.00	2,943.01	30.15	88,732.50
1974	244,817.66	75.00	3,264.24	30.89	100,828.12
1975	171,247.48	75.00	2,283.30	31.63	72,231.09
1976	188,859.28	75.00	2,518.12	32.39	81,566.65
1977	227,075.83	75.00	3,027.68	33.15	100,379.23
1978	364,445.89	75.00	4,859.28	33.92	164,840.34
1979	252,373.79	75.00	3,364.98	34.70	116,773.77
1980	202,123.51	75.00	2,694.98	35.49	95,636.64
1981	330,463.03	75.00	4,406.17	36.28	159,846.49
1982	233,683.70	75.00	3,115.78	37.08	115,530.35
1983	278,253.15	75.00	3,710.04	37.88	140,553.65
1984	354,912.95	75.00	4,732.17	38.70	183,118.56
1985	311,964.38	75.00	4,159.52	39.52	164,376.89
1986	348,843.52	75.00	4,651.25	40.34	187,650.28
1987	527,587.52	75.00	7,034.50	41.18	289,652.60
1988	405,974.09	75.00	5,412.99	42.02	227,438.94

FE 2023 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1989	396,839.13	75.00	5,291.19	42.86	226,794.10
1990	172,340.89	75.00	2,297.88	43.71	100,448.79
1991	234,417.50	75.00	3,125.57	44.57	139,317.94
1992	1,216,023.06	75.00	16,213.64	45.44	736,707.84
1993	664,913.91	75.00	8,865.52	46.31	410,534.68
1994	369,871.97	75.00	4,931.63	47.18	232,696.73
1995	103,931.62	75.00	1,385.75	48.07	66,607.71
1996	555,624.27	75.00	7,408.32	48.95	362,656.82
1997	87,911.67	75.00	1,172.16	49.85	58,428.41
1998	3,733.80	75.00	49.78	50.74	2,526.28
2003	251,087.08	75.00	3,347.83	55.31	185,175.86
2009	896.66	75.00	11.96	60.94	728.55
2010	1,582.81	75.00	21.10	61.89	1,306.13
2019	48,751.39	75.00	650.02	70.58	45,880.74
Total	15,602,749.38	75.00	208,036.64	31.97	6,650,242.45

Composite Average Remaining Life ... 31.97 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1892	7,192.46	0.00	0.00	0.00	0.00
1902	2,370.88	0.00	0.00	0.00	0.00
1904	239.84	65.00	3.69	0.55	2.02
1908	10,571.81	65.00	162.64	1.40	227.68
1912	2,253.68	65.00	34.67	2.44	84.54
1913	2,602.94	65.00	40.05	2.69	107.72
1914	173.87	65.00	2.67	2.96	7.92
1917	8,346.00	65.00	128.40	3.78	485.51
1920	55,729.00	65.00	857.37	4.51	3,863.00
1921	925.44	65.00	14.24	4.75	67.56
1922	18,114.78	65.00	278.69	4.96	1,381.74
1923	34,370.29	65.00	528.77	5.19	2,744.03
1924	38,803.39	65.00	596.97	5.40	3,221.37
1925	86,453.64	65.00	1,330.05	5.63	7,481.57
1926	31,711.66	65.00	487.87	5.83	2,844.79
1927	6,991.18	65.00	107.56	6.05	650.35
1928	6,244.99	65.00	96.08	6.27	602.59
1929	11,014.08	65.00	169.45	6.49	1,099.72
1930	14,243.13	65.00	219.12	6.72	1,472.50
1931	11,102.29	65.00	170.80	6.94	1,185.67
1932	1,536.28	65.00	23.64	7.18	169.62
1934	1,367.27	65.00	21.03	7.64	160.77
1935	1,639.18	65.00	25.22	7.87	198.59
1936	1,321.03	65.00	20.32	8.12	165.05
1937	4,809.48	65.00	73.99	8.36	618.53
1938	1,030.19	65.00	15.85	8.61	136.51
1939	156.83	65.00	2.41	8.86	21.38

FE 2023 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1940	1,253.81	65.00	19.29	9.12	175.84
1941	9,799.42	65.00	150.76	9.38	1,414.29
1942	34,735.49	65.00	534.39	9.65	5,156.12
1943	13,830.70	65.00	212.78	9.93	2,112.31
1944	6,570.55	65.00	101.09	10.21	1,032.00
1945	17,757.07	65.00	273.19	10.50	2,869.42
1946	28,007.64	65.00	430.89	10.80	4,654.88
1947	19,529.50	65.00	300.45	11.12	3,339.71
1948	52,394.27	65.00	806.06	11.44	9,217.48
1949	46,563.81	65.00	716.37	11.77	8,430.27
1950	31,570.98	65.00	485.71	12.11	5,882.02
1951	70,120.66	65.00	1,078.78	12.47	13,447.58
1952	93,437.02	65.00	1,437.49	12.83	18,446.06
1953	188,465.84	65.00	2,899.47	13.21	38,307.07
1954	110,455.46	65.00	1,699.31	13.60	23,117.25
1955	119,857.08	65.00	1,843.95	14.01	25,833.02
1956	41,212.35	65.00	634.04	14.43	9,147.63
1957	87,087.40	65.00	1,339.80	14.86	19,909.81
1958	140,487.96	65.00	2,161.35	15.30	33,078.75
1959	83,414.29	65.00	1,283.30	15.76	20,230.56
1960	161,627.03	65.00	2,486.57	16.24	40,370.60
1961	256,389.55	65.00	3,944.45	16.72	65,961.38
1962	233,937.26	65.00	3,599.03	17.22	61,974.61
1963	225,242.98	65.00	3,465.27	17.73	61,452.23
1964	388,766.65	65.00	5,981.02	18.26	109,193.85
1965	286,789.54	65.00	4,412.14	18.80	82,934.17
1966	276,250.78	65.00	4,250.01	19.35	82,229.62

FE 2023 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	256,163.49	65.00	3,940.97	19.91	78,464.48
1968	95,460.81	65.00	1,468.63	20.49	30,086.08
1969	47,246.25	65.00	726.86	21.07	15,315.96
1970	289,398.83	65.00	4,452.28	21.67	96,484.29
1971	30,552.85	65.00	470.04	22.28	10,471.91
1972	250,901.04	65.00	3,860.01	22.90	88,395.97
1973	398,664.37	65.00	6,133.29	23.53	144,314.25
1974	140,386.41	65.00	2,159.79	24.17	52,207.89
1975	297,197.22	65.00	4,572.26	24.82	113,493.31
1976	154,250.05	65.00	2,373.07	25.49	60,478.40
1977	100,753.22	65.00	1,550.05	26.15	40,539.82
1978	512,427.61	65.00	7,883.49	26.84	211,561.76
1979	405,115.20	65.00	6,232.53	27.53	171,556.26
1980	337,154.13	65.00	5,186.98	28.22	146,392.44
1981	1,115,648.43	65.00	17,163.80	28.93	496,559.50
1982	497,430.51	65.00	7,652.77	29.64	226,863.88
1983	74,693.95	65.00	1,149.14	30.37	34,898.30
1984	211,866.60	65.00	3,259.48	31.10	101,368.07
1985	138,857.83	65.00	2,136.27	31.84	68,019.13
1986	218,908.96	65.00	3,367.83	32.59	109,743.92
1987	119,567.63	65.00	1,839.50	33.34	61,333.04
1988	28,837.86	65.00	443.66	34.10	15,130.16
1989	112,908.61	65.00	1,737.05	34.87	60,578.72
1990	98,150.83	65.00	1,510.01	35.65	53,831.63
1991	73,230.20	65.00	1,126.62	36.44	41,048.99
1992	42,933.12	65.00	660.51	37.23	24,589.01
1993	232,681.73	65.00	3,579.71	38.02	136,117.91

FE 2023 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	42,165.56	65.00	648.70	38.83	25,189.25
1995	49,594.74	65.00	762.99	39.64	30,245.92
1996	218,867.98	65.00	3,367.20	40.46	136,236.38
1997	154,734.57	65.00	2,380.53	41.28	98,276.36
1998	283,222.21	65.00	4,357.26	42.12	183,506.25
2000	43,978.02	65.00	676.58	43.79	29,630.90
2001	10,517.54	65.00	161.81	44.64	7,223.52
2002	19,044.96	65.00	293.00	45.50	13,330.93
2004	2,801.17	65.00	43.09	47.22	2,035.12
2005	7,630.58	65.00	117.39	48.10	5,646.10
2006	422,363.08	65.00	6,497.88	48.97	318,210.07
2008	61,611.65	65.00	947.87	50.74	48,093.86
2009	158,803.38	65.00	2,443.13	51.63	126,139.70
2010	632,005.66	65.00	9,723.15	52.53	510,713.43
2011	617,877.88	65.00	9,505.80	53.43	507,859.73
2012	481,762.74	65.00	7,411.72	54.33	402,680.10
2013	655,866.23	65.00	10,090.24	55.24	557,379.92
2014	822,795.03	65.00	12,658.37	56.15	710,787.62
2015	473,918.30	65.00	7,291.04	57.07	416,092.41
2016	328,281.61	65.00	5,050.48	57.99	292,870.96
2017	131,258.19	65.00	2,019.35	58.91	118,967.39
2018	917,473.33	65.00	14,114.96	59.84	844,659.56
2019	273,476.91	65.00	4,207.33	60.77	255,688.68
2020	368,763.07	65.00	5,673.27	61.71	350,078.84
2021	470,245.61	65.00	7,234.54	62.64	453,198.42
2022	74,426.30	65.00	1,145.02	63.58	72,805.30
2023	976,737.72	65.00	15,026.71	64.53	969,632.29

FE 2023 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	18,368,482.46	63.80	282,444.53	38.79	10,955,943.32

Composite Average Remaining Life ... *38.79 Years*

FE 2023 Study - Pennsylvania Electric
Electric Division
361.10 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	24,461.40	65.00	376.33	48.10	18,099.73
2008	112,008.89	65.00	1,723.21	50.74	87,433.78
2009	0.53	65.00	0.01	51.63	0.42
2010	83,034.47	65.00	1,277.45	52.53	67,098.80
2011	59,714.64	65.00	918.69	53.43	49,081.97
2013	108,511.05	65.00	1,669.40	55.24	92,216.79
2014	35,843.54	65.00	551.44	56.15	30,964.15
2016	1,536.11	65.00	23.63	57.99	1,370.41
2017	2,085.59	65.00	32.09	58.91	1,890.30
Total	427,196.22	65.00	6,572.24	52.97	348,156.35

Composite Average Remaining Life ... 52.97 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1910	518.01	62.00	8.35	3.68	30.73
1912	1,574.60	62.00	25.40	4.23	107.54
1913	698.84	62.00	11.27	4.48	50.45
1914	148.60	62.00	2.40	4.72	11.32
1915	0.01	62.00	0.00	4.94	0.00
1916	65.15	62.00	1.05	5.16	5.43
1917	778.49	62.00	12.56	5.39	67.73
1918	1,429.40	62.00	23.05	5.61	129.42
1919	319.20	62.00	5.15	5.85	30.13
1920	2,753.48	62.00	44.41	6.08	269.84
1921	2,405.13	62.00	38.79	6.31	244.79
1922	5,832.33	62.00	94.07	6.56	616.97
1923	17,422.32	62.00	281.00	6.80	1,911.14
1924	16,435.09	62.00	265.08	7.05	1,869.44
1925	41,677.22	62.00	672.21	7.31	4,915.95
1926	202,482.91	62.00	3,265.82	7.57	24,729.71
1927	130,713.24	62.00	2,108.26	7.84	16,536.11
1928	5,736.16	62.00	92.52	8.11	750.30
1929	102,519.27	62.00	1,653.52	8.38	13,861.04
1930	43,830.43	62.00	706.93	8.66	6,124.72
1931	66,991.58	62.00	1,080.50	8.94	9,662.61
1932	57,422.02	62.00	926.15	9.23	8,550.03
1933	4,585.86	62.00	73.96	9.52	703.89
1934	664.17	62.00	10.71	9.81	105.05
1935	10,540.31	62.00	170.00	10.10	1,717.81
1936	23,712.52	62.00	382.46	10.40	3,977.90
1937	35,346.69	62.00	570.10	10.71	6,103.82

FE 2023 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1938	13,020.84	62.00	210.01	11.01	2,312.19
1939	8,326.11	62.00	134.29	11.32	1,520.02
1940	33,572.77	62.00	541.49	11.64	6,300.49
1941	93,522.36	62.00	1,508.41	11.95	18,029.84
1942	243,298.07	62.00	3,924.12	12.28	48,174.06
1943	120,325.84	62.00	1,940.72	12.61	24,465.95
1944	46,050.09	62.00	742.74	12.94	9,611.30
1945	110,439.90	62.00	1,781.27	13.28	23,659.03
1946	299,539.99	62.00	4,831.24	13.63	65,837.36
1947	152,814.56	62.00	2,464.72	13.98	34,456.42
1948	268,841.97	62.00	4,336.11	14.34	62,178.61
1949	706,401.52	62.00	11,393.45	14.71	167,544.92
1950	718,741.38	62.00	11,592.48	15.08	174,803.48
1951	1,034,789.68	62.00	16,689.98	15.46	258,011.30
1952	661,748.08	62.00	10,673.24	15.85	169,137.74
1953	1,953,204.73	62.00	31,502.96	16.24	511,685.93
1954	1,657,626.96	62.00	26,735.63	16.65	445,037.49
1955	1,511,506.72	62.00	24,378.88	17.06	415,836.95
1956	337,310.66	62.00	5,440.44	17.48	95,079.63
1957	1,391,432.46	62.00	22,442.22	17.90	401,811.78
1958	1,579,648.90	62.00	25,477.93	18.34	467,255.15
1959	1,273,405.65	62.00	20,538.58	18.78	385,802.07
1960	1,561,229.62	62.00	25,180.85	19.24	484,407.05
1961	2,511,207.02	62.00	40,502.90	19.70	797,810.70
1962	2,893,333.31	62.00	46,666.16	20.17	941,146.37
1963	2,329,216.12	62.00	37,567.59	20.64	775,568.41
1964	3,316,274.91	62.00	53,487.73	21.13	1,130,298.44

FE 2023 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1965	2,685,318.60	62.00	43,311.12	21.63	936,702.55
1966	2,304,275.73	62.00	37,165.33	22.13	822,461.51
1967	2,496,702.34	62.00	40,268.96	22.64	911,784.21
1968	1,370,209.09	62.00	22,099.91	23.16	511,858.07
1969	1,172,194.33	62.00	18,906.16	23.69	447,900.12
1970	3,420,168.81	62.00	55,163.42	24.23	1,336,500.07
1971	2,156,858.10	62.00	34,787.66	24.77	861,751.47
1972	2,590,495.41	62.00	41,781.73	25.33	1,058,152.35
1973	3,375,950.82	62.00	54,450.23	25.89	1,409,559.44
1974	2,493,310.60	62.00	40,214.25	26.46	1,063,877.61
1975	3,164,197.43	62.00	51,034.89	27.03	1,379,613.91
1976	2,171,693.30	62.00	35,026.93	27.62	967,301.03
1977	838,680.97	62.00	13,526.97	28.21	381,584.51
1978	3,964,557.26	62.00	63,943.78	28.81	1,842,177.75
1979	4,139,034.01	62.00	66,757.89	29.42	1,963,712.13
1980	2,009,220.86	62.00	32,406.44	30.03	973,186.40
1981	6,130,015.68	62.00	98,870.15	30.65	3,030,439.37
1982	4,643,162.94	62.00	74,888.91	31.28	2,342,563.10
1983	784,299.35	62.00	12,649.85	31.92	403,740.36
1984	2,336,203.19	62.00	37,680.29	32.56	1,226,788.73
1985	2,515,943.35	62.00	40,579.29	33.21	1,347,546.87
1986	4,188,421.20	62.00	67,554.45	33.86	2,287,636.58
1987	2,727,049.16	62.00	43,984.19	34.52	1,518,546.26
1988	1,744,667.61	62.00	28,139.50	35.19	990,331.70
1989	3,579,821.92	62.00	57,738.44	35.87	2,070,893.63
1990	2,270,643.54	62.00	36,622.89	36.55	1,338,495.28
1991	3,759,521.98	62.00	60,636.79	37.23	2,257,785.54

FE 2023 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1992	3,150,611.81	62.00	50,815.77	37.93	1,927,220.49
1993	4,494,542.33	62.00	72,491.83	38.62	2,799,903.40
1994	2,390,581.64	62.00	38,557.35	39.33	1,516,280.43
1995	3,049,482.89	62.00	49,184.67	40.03	1,969,076.01
1996	4,681,827.18	62.00	75,512.52	40.75	3,076,981.19
1997	6,744,535.73	62.00	108,781.66	41.47	4,510,664.96
1998	7,030,895.44	62.00	113,400.31	42.19	4,784,244.56
1999	973,302.44	62.00	15,698.26	42.92	673,698.84
2000	2,214,187.61	62.00	35,712.32	43.65	1,558,796.34
2001	6,553,153.28	62.00	105,694.87	44.39	4,691,356.88
2002	1,444,120.38	62.00	23,292.01	45.13	1,051,075.64
2003	1,011,918.78	62.00	16,321.09	45.87	748,679.43
2004	4,309,453.98	62.00	69,506.57	46.62	3,240,495.91
2005	3,625,663.31	62.00	58,477.81	47.37	2,770,338.58
2006	10,773,828.77	62.00	173,769.55	48.13	8,363,855.03
2007	5,749,479.04	62.00	92,732.53	48.89	4,533,889.65
2008	4,659,386.02	62.00	75,150.57	49.66	3,731,810.42
2009	6,165,067.69	62.00	99,435.50	50.43	5,014,224.40
2010	8,494,017.85	62.00	136,998.80	51.20	7,014,196.58
2011	21,714,042.76	62.00	350,222.70	51.98	18,203,166.65
2012	10,031,336.77	62.00	161,794.00	52.76	8,535,501.70
2013	9,236,553.58	62.00	148,975.06	53.54	7,976,155.93
2014	9,812,968.12	62.00	158,271.96	54.33	8,598,674.59
2015	8,188,590.09	62.00	132,072.60	55.12	7,279,776.19
2016	11,462,004.44	62.00	184,869.04	55.92	10,337,050.05
2017	9,812,429.33	62.00	158,263.27	56.71	8,975,894.79
2018	17,272,020.70	62.00	278,577.96	57.52	16,023,111.45

FE 2023 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2019	13,091,413.44	62.00	211,149.54	58.32	12,315,218.05
2020	13,532,074.22	62.00	218,256.90	59.13	12,906,478.53
2021	9,324,085.66	62.00	150,386.85	59.95	9,015,555.48
2022	13,163,568.58	62.00	212,313.32	60.77	12,901,685.94
2023	28,519,529.29	62.00	459,987.42	61.59	28,329,827.69
Total	365,312,723.98	62.00	5,892,076.84	45.67	269,078,642.87

Composite Average Remaining Life ... 45.67 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
362.10 Station Equipment - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	5,569.72	62.00	89.83	48.89	4,392.14
2008	3,999.55	62.00	64.51	49.66	3,203.33
2009	21,815.20	62.00	351.85	50.43	17,742.92
2010	875,111.94	62.00	14,114.56	51.20	722,650.61
2011	735,721.12	62.00	11,866.34	51.98	616,764.66
2012	333,588.49	62.00	5,380.40	52.76	283,845.03
2013	14,698.94	62.00	237.08	53.54	12,693.16
2014	293,116.37	62.00	4,727.63	54.33	256,845.05
2015	766,697.55	62.00	12,365.96	55.12	681,605.32
2016	563,892.27	62.00	9,094.94	55.92	508,548.28
2017	1,697,037.29	62.00	27,371.27	56.71	1,552,360.55
2018	3,058,803.21	62.00	49,335.00	57.52	2,837,626.56
2019	677,036.50	62.00	10,919.83	58.32	636,894.72
2020	1,061,153.73	62.00	17,115.20	59.13	1,012,095.97
2021	622,935.34	62.00	10,047.24	59.95	602,322.66
2022	605,741.20	62.00	9,769.91	60.77	593,690.28
2023	223,477.85	62.00	3,604.44	61.59	221,991.36
Total	11,560,396.27	62.00	186,455.98	56.66	10,565,272.60

Composite Average Remaining Life ... 56.66 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1900	35,635.96	0.00	0.00	0.00	0.00
1943	705,601.35	65.00	10,855.41	7.43	80,667.22
1944	101,413.37	65.00	1,560.21	7.72	12,039.04
1945	163,403.30	65.00	2,513.90	8.01	20,148.86
1946	291,954.47	65.00	4,491.61	8.32	37,355.59
1947	239,933.28	65.00	3,691.28	8.63	31,866.54
1948	416,112.16	65.00	6,401.73	8.95	57,325.55
1949	269,828.25	65.00	4,151.20	9.29	38,569.98
1950	604,281.38	65.00	9,296.64	9.64	89,583.50
1951	723,022.55	65.00	11,123.42	10.00	111,185.18
1952	881,767.68	65.00	13,565.66	10.37	140,621.57
1953	1,061,852.01	65.00	16,336.18	10.75	175,621.77
1954	1,292,908.78	65.00	19,890.90	11.15	221,750.44
1955	1,284,356.78	65.00	19,759.34	11.56	228,428.82
1956	1,083,621.66	65.00	16,671.10	11.99	199,820.31
1957	1,256,354.97	65.00	19,328.54	12.43	240,199.40
1958	1,276,967.02	65.00	19,645.65	12.88	253,057.49
1959	1,734,928.20	65.00	26,691.20	13.35	356,378.14
1960	2,019,885.73	65.00	31,075.17	13.83	429,913.20
1961	2,330,373.30	65.00	35,851.90	14.34	513,945.96
1962	2,029,105.17	65.00	31,217.00	14.85	463,471.98
1963	2,580,197.55	65.00	39,695.35	15.38	610,395.06
1964	2,187,839.34	65.00	33,659.07	15.92	535,749.21
1965	2,210,837.25	65.00	34,012.88	16.48	560,399.34
1966	2,272,811.03	65.00	34,966.32	17.05	596,091.88
1967	1,679,024.79	65.00	25,831.15	17.63	455,419.85
1968	1,629,413.30	65.00	25,067.90	18.23	456,975.10

FE 2023 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	2,027,970.91	65.00	31,199.55	18.84	587,759.07
1970	2,245,878.65	65.00	34,551.98	19.46	672,507.55
1971	2,266,509.64	65.00	34,869.38	20.10	700,796.37
1972	2,739,708.27	65.00	42,149.36	20.75	874,491.17
1973	3,011,615.38	65.00	46,332.54	21.41	991,754.13
1974	2,588,380.91	65.00	39,821.25	22.08	879,179.45
1975	1,630,162.29	65.00	25,079.42	22.76	570,760.20
1976	2,121,545.80	65.00	32,639.17	23.45	765,490.34
1977	2,379,993.96	65.00	36,615.29	24.15	884,409.17
1978	2,746,958.96	65.00	42,260.91	24.87	1,051,021.87
1979	3,157,888.69	65.00	48,582.90	25.59	1,243,428.23
1980	2,662,399.05	65.00	40,959.99	26.33	1,078,308.40
1981	5,096,837.91	65.00	78,412.89	27.07	2,122,571.47
1982	4,635,910.22	65.00	71,321.70	27.82	1,984,129.31
1983	5,231,815.79	65.00	80,489.47	28.58	2,300,465.21
1984	5,910,275.12	65.00	90,927.31	29.35	2,668,600.99
1985	6,687,950.47	65.00	102,891.55	30.13	3,099,885.73
1986	7,822,112.79	65.00	120,340.20	30.91	3,719,993.08
1987	10,058,521.60	65.00	154,746.49	31.71	4,906,712.61
1988	9,261,068.13	65.00	142,477.97	32.51	4,631,803.01
1989	9,296,759.37	65.00	143,027.07	33.32	4,765,785.98
1990	7,879,458.00	65.00	121,222.43	34.14	4,138,216.64
1991	14,999,013.33	65.00	230,754.05	34.96	8,068,314.82
1992	8,854,158.01	65.00	136,217.82	35.80	4,876,475.36
1993	23,572,408.21	65.00	362,652.44	36.64	13,287,356.52
1994	16,875,637.91	65.00	259,625.20	37.49	9,732,924.52
1995	21,021,108.72	65.00	323,401.68	38.34	12,400,190.49

FE 2023 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	11,915,896.41	65.00	183,321.49	39.21	7,187,362.99
1997	13,466,273.46	65.00	207,173.44	40.07	8,302,433.15
1998	20,959,862.46	65.00	322,459.43	40.95	13,205,318.38
1999	14,372,965.07	65.00	221,122.54	41.83	9,250,348.66
2000	12,583,685.52	65.00	193,595.16	42.72	8,271,115.00
2001	9,310,857.74	65.00	143,243.97	43.62	6,248,029.94
2002	3,986,794.54	65.00	61,335.30	44.52	2,730,689.94
2003	5,112,408.34	65.00	78,652.44	45.43	3,572,941.40
2004	7,923,580.20	65.00	121,901.24	46.34	5,649,051.74
2005	13,578,493.51	65.00	208,899.90	47.26	9,872,662.76
2006	12,711,349.67	65.00	195,559.23	48.18	9,422,786.49
2007	6,361,680.21	65.00	97,872.00	49.11	4,806,822.16
2008	16,181,402.98	65.00	248,944.66	50.05	12,458,902.15
2009	12,880,709.15	65.00	198,164.76	50.99	10,103,650.05
2010	14,855,533.93	65.00	228,546.68	51.93	11,868,156.06
2011	43,680,921.01	65.00	672,014.18	52.88	35,534,004.14
2012	17,566,154.42	65.00	270,248.53	53.83	14,546,914.11
2013	14,341,686.97	65.00	220,641.34	54.78	12,087,603.66
2014	14,353,231.82	65.00	220,818.95	55.74	12,309,005.74
2015	10,014,774.91	65.00	154,073.46	56.71	8,736,841.78
2016	14,936,273.73	65.00	229,788.83	57.67	13,252,148.48
2017	14,065,672.00	65.00	216,394.96	58.64	12,689,497.38
2018	17,021,294.61	65.00	261,866.07	59.61	15,610,465.65
2019	20,197,505.18	65.00	310,730.85	60.59	18,826,141.19
2020	30,899,258.13	65.00	475,373.21	61.56	29,265,771.86
2021	26,495,208.62	65.00	407,618.60	62.54	25,493,607.38
2022	29,376,081.70	65.00	451,939.72	63.52	28,709,191.19

FE 2023 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	37,201,985.55	65.00	572,338.25	64.51	36,920,113.37
Total	685,497,020.56	64.21	10,545,559.89	46.17	486,851,889.48

Composite Average Remaining Life ... 46.17 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
364.20 Poles, Towers, and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	68,211.88	65.00	1,049.41	48.18	50,564.73
2008	0.07	65.00	0.00	50.05	0.05
2010	74,507.26	65.00	1,146.27	51.93	59,524.20
2012	3,663.40	65.00	56.36	53.83	3,033.74
2014	4,504.10	65.00	69.29	55.74	3,862.61
2016	28,691.93	65.00	441.41	57.67	25,456.80
2017	20,670.33	65.00	318.01	58.64	18,647.96
2018	37,268.45	65.00	573.36	59.61	34,179.41
2019	23,813.55	65.00	366.36	60.59	22,196.66
2020	74,381.46	65.00	1,144.33	61.56	70,449.29
2021	56,283.61	65.00	865.90	62.54	54,155.91
2022	12,527.61	65.00	192.73	63.52	12,243.21
2023	131,372.43	65.00	2,021.11	64.51	130,377.05
Total	535,896.08	65.00	8,244.56	58.79	484,691.64

Composite Average Remaining Life ... 58.79 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	2,862,886.11	60.00	47,713.88	16.82	802,398.90
1944	14,369.27	60.00	239.48	17.23	4,126.48
1945	141,726.17	60.00	2,362.06	17.65	41,681.44
1946	355,047.74	60.00	5,917.35	18.06	106,894.20
1947	467,622.44	60.00	7,793.56	18.49	144,069.65
1948	405,134.11	60.00	6,752.11	18.91	127,681.94
1949	429,398.53	60.00	7,156.51	19.34	138,384.36
1950	391,165.94	60.00	6,519.31	19.77	128,867.63
1951	556,167.34	60.00	9,269.28	20.20	187,240.65
1952	520,899.82	60.00	8,681.50	20.64	179,155.74
1953	873,081.98	60.00	14,551.10	21.08	306,681.56
1954	1,439,558.75	60.00	23,992.20	21.52	516,292.77
1955	1,502,903.65	60.00	25,047.93	21.97	550,195.26
1956	1,034,882.20	60.00	17,247.72	22.42	386,616.03
1957	1,010,866.88	60.00	16,847.47	22.87	385,286.39
1958	991,583.36	60.00	16,526.08	23.33	385,492.29
1959	1,414,223.55	60.00	23,569.95	23.79	560,660.86
1960	1,724,804.26	60.00	28,746.20	24.25	697,135.30
1961	2,075,593.01	60.00	34,592.57	24.72	855,118.28
1962	2,431,629.55	60.00	40,526.41	25.19	1,020,929.74
1963	3,117,183.72	60.00	51,952.10	25.67	1,333,467.23
1964	2,979,090.66	60.00	49,650.59	26.15	1,298,213.71
1965	2,300,053.32	60.00	38,333.51	26.63	1,020,839.63
1966	2,930,516.31	60.00	48,841.03	27.12	1,324,445.86
1967	1,867,685.42	60.00	31,127.51	27.61	859,394.39
1968	1,711,702.74	60.00	28,527.85	28.10	801,725.80
1969	2,222,637.52	60.00	37,043.27	28.60	1,059,532.23

FE 2023 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	2,389,039.19	60.00	39,816.58	29.11	1,158,883.78
1971	2,703,446.86	60.00	45,056.61	29.61	1,334,228.65
1972	3,264,987.80	60.00	54,415.45	30.12	1,639,125.08
1973	3,594,047.76	60.00	59,899.68	30.64	1,835,146.58
1974	2,686,117.19	60.00	44,767.79	31.15	1,394,714.71
1975	1,711,304.27	60.00	28,521.21	31.68	903,459.76
1976	2,034,045.22	60.00	33,900.12	32.20	1,091,674.64
1977	2,355,093.44	60.00	39,250.83	32.73	1,284,761.58
1978	2,744,225.35	60.00	45,736.24	33.26	1,521,402.42
1979	3,387,629.42	60.00	56,459.44	33.80	1,908,417.64
1980	3,741,585.42	60.00	62,358.60	34.34	2,141,454.01
1981	7,215,445.15	60.00	120,255.18	34.89	4,195,104.69
1982	6,346,038.44	60.00	105,765.34	35.43	3,747,510.02
1983	6,168,625.48	60.00	102,808.51	35.98	3,699,331.30
1984	7,033,304.03	60.00	117,219.56	36.54	4,282,729.09
1985	8,606,984.17	60.00	143,447.07	37.09	5,320,880.10
1986	8,123,576.97	60.00	135,390.43	37.65	5,097,736.59
1987	11,442,836.84	60.00	190,710.40	38.22	7,288,073.45
1988	8,658,728.92	60.00	144,309.47	38.78	5,596,516.36
1989	9,032,197.72	60.00	150,533.83	39.35	5,923,492.86
1990	10,490,970.93	60.00	174,846.27	39.92	6,979,990.67
1991	18,433,825.86	60.00	307,224.72	40.49	12,440,969.29
1992	4,394,532.20	60.00	73,240.84	41.07	3,008,016.88
1993	19,306,588.62	60.00	321,770.50	41.65	13,401,457.21
1994	13,521,384.30	60.00	225,352.22	42.23	9,516,632.99
1995	15,394,663.25	60.00	256,572.95	42.81	10,984,632.38
1996	13,127,697.24	60.00	218,790.89	43.40	9,494,948.87

FE 2023 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	15,308,931.26	60.00	255,144.11	43.98	11,222,307.61
1998	12,282,252.49	60.00	204,700.40	44.57	9,123,910.38
1999	9,585,463.65	60.00	159,754.76	45.16	7,214,897.40
2000	10,809,991.08	60.00	180,163.17	45.75	8,243,184.14
2001	7,059,138.01	60.00	117,650.11	46.35	5,452,722.26
2002	6,527,562.93	60.00	108,790.69	46.94	5,106,732.05
2003	7,202,221.63	60.00	120,034.80	47.54	5,706,030.72
2004	12,619,092.44	60.00	210,314.30	48.13	10,122,972.43
2005	30,503,042.29	60.00	508,374.59	48.73	24,773,354.67
2006	32,640,949.70	60.00	544,005.72	49.33	26,835,454.40
2007	20,556,212.14	60.00	342,597.17	49.93	17,105,418.27
2008	35,976,088.98	60.00	599,590.34	50.53	30,297,113.53
2009	31,475,675.43	60.00	524,584.84	51.13	26,822,914.62
2010	31,049,517.07	60.00	517,482.33	51.73	26,771,558.01
2011	23,563,191.47	60.00	392,712.56	52.34	20,554,052.09
2012	24,994,941.17	60.00	416,574.61	52.94	22,055,198.42
2013	24,623,602.42	60.00	410,385.75	53.55	21,976,482.97
2014	24,439,690.36	60.00	407,320.60	54.16	22,059,834.92
2015	24,341,216.42	60.00	405,679.40	54.77	22,218,134.17
2016	25,232,948.36	60.00	420,541.32	55.38	23,288,614.95
2017	29,259,087.77	60.00	487,642.40	55.99	27,303,006.66
2018	31,113,141.64	60.00	518,542.72	56.60	29,351,159.71
2019	32,677,268.60	60.00	544,611.02	57.22	31,161,443.27
2020	40,321,161.37	60.00	672,006.87	57.83	38,864,546.60
2021	40,096,840.45	60.00	668,268.25	58.45	39,061,064.65
2022	41,957,424.16	60.00	699,277.41	59.07	41,306,035.89
2023	42,147,485.63	60.00	702,445.04	59.69	41,929,135.08

FE 2023 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	904,045,475.31	60.00	15,067,144.57	49.00	738,341,099.76

Composite Average Remaining Life ... *49.00 Years*

FE 2023 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	276,300.72	75.00	3,683.99	8.71	32,100.55
1944	20,486.86	75.00	273.16	9.09	2,481.75
1945	107,339.22	75.00	1,431.18	9.47	13,557.78
1946	210,713.68	75.00	2,809.50	9.88	27,756.94
1947	144,126.33	75.00	1,921.68	10.30	19,800.25
1948	166,991.30	75.00	2,226.54	10.75	23,927.07
1949	200,632.29	75.00	2,675.08	11.21	29,999.84
1950	135,824.68	75.00	1,810.99	11.70	21,188.42
1951	162,822.30	75.00	2,170.95	12.21	26,497.97
1952	195,558.90	75.00	2,607.44	12.74	33,220.32
1953	243,367.43	75.00	3,244.88	13.29	43,128.34
1954	377,075.82	75.00	5,027.65	13.86	69,690.51
1955	270,316.47	75.00	3,604.20	14.46	52,115.38
1956	233,666.88	75.00	3,115.54	15.07	46,951.76
1957	192,556.75	75.00	2,567.41	15.70	40,299.66
1958	227,254.01	75.00	3,030.04	16.34	49,525.75
1959	326,489.25	75.00	4,353.17	17.00	74,008.32
1960	336,506.34	75.00	4,486.73	17.67	79,269.95
1961	321,699.24	75.00	4,289.30	18.35	78,705.85
1962	163,406.12	75.00	2,178.74	19.04	41,474.42
1963	330,161.45	75.00	4,402.13	19.73	86,856.95
1964	196,609.42	75.00	2,621.45	20.44	53,580.39
1965	156,894.18	75.00	2,091.91	21.15	44,251.01
1966	137,118.43	75.00	1,828.24	21.88	39,994.98
1967	70,774.57	75.00	943.66	22.61	21,339.67
1968	102,298.42	75.00	1,363.97	23.36	31,858.86
1969	165,061.79	75.00	2,200.81	24.11	53,061.95

FE 2023 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	141,862.30	75.00	1,891.49	24.88	47,056.08
1971	156,090.82	75.00	2,081.20	25.65	53,386.35
1972	202,431.27	75.00	2,699.07	26.43	71,349.47
1973	262,565.44	75.00	3,500.86	27.23	95,337.32
1974	202,768.03	75.00	2,703.56	28.04	75,798.56
1975	121,236.63	75.00	1,616.48	28.85	46,634.76
1976	147,459.20	75.00	1,966.11	29.68	58,347.41
1977	153,514.20	75.00	2,046.85	30.51	62,448.32
1978	152,886.75	75.00	2,038.48	31.35	63,908.57
1979	138,237.00	75.00	1,843.15	32.21	59,359.86
1980	112,340.58	75.00	1,497.87	33.07	49,528.31
1981	167,148.56	75.00	2,228.64	33.93	75,626.67
1982	230,983.79	75.00	3,079.77	34.81	107,219.09
1983	300,892.83	75.00	4,011.88	35.70	143,221.04
1984	237,671.89	75.00	3,168.94	36.59	115,956.45
1985	383,851.81	75.00	5,118.00	37.49	191,895.81
1986	631,805.32	75.00	8,424.03	38.40	323,497.56
1987	587,781.72	75.00	7,837.05	39.32	308,117.69
1988	517,842.93	75.00	6,904.54	40.24	277,826.97
1989	370,484.02	75.00	4,939.76	41.17	203,346.26
1990	361,599.66	75.00	4,821.31	42.10	202,964.81
1991	798,090.31	75.00	10,641.15	43.04	457,967.63
1992	397,909.84	75.00	5,305.44	43.98	233,337.47
1993	618,050.92	75.00	8,240.64	44.93	370,241.59
1994	201,812.65	75.00	2,690.82	45.88	123,462.98
1995	683,550.18	75.00	9,113.96	46.84	426,898.78
1996	466,314.77	75.00	6,217.50	47.80	297,202.37

FE 2023 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	254,639.18	75.00	3,395.17	48.77	165,571.85
1998	140,621.23	75.00	1,874.94	49.74	93,250.32
1999	518,033.29	75.00	6,907.08	50.71	350,232.03
2000	675,798.13	75.00	9,010.60	51.68	465,680.66
2001	848,566.30	75.00	11,314.16	52.66	595,786.13
2002	618,166.45	75.00	8,242.18	53.64	442,091.84
2003	688.60	75.00	9.18	54.62	501.48
2005	67,151.14	75.00	895.34	56.59	50,666.92
2006	7,380,103.20	75.00	98,400.90	57.58	5,665,636.01
2007	1,244,906.81	75.00	16,598.68	58.57	972,116.10
2008	21,747,370.73	75.00	289,963.53	59.56	17,269,056.94
2009	19,774,272.02	75.00	263,655.67	60.55	15,963,744.44
2010	15,854,093.88	75.00	211,386.89	61.54	13,008,789.03
2011	9,051,231.56	75.00	120,682.50	62.53	7,546,710.95
2012	101,420.92	75.00	1,352.27	63.53	85,907.38
2013	40,775,500.03	75.00	543,670.68	64.52	35,079,408.50
2014	9,832,998.60	75.00	131,106.01	65.52	8,589,935.57
2015	9,532,521.12	75.00	127,099.66	66.52	8,454,102.81
2016	19,331,812.84	75.00	257,756.25	67.51	17,401,752.80
2017	9,147,203.86	75.00	121,962.12	68.51	8,355,596.77
2018	34,031,266.10	75.00	453,748.00	69.51	31,538,948.95
2019	27,868,237.24	75.00	371,574.68	70.51	26,198,143.88
2020	23,751,932.01	75.00	316,690.88	71.50	22,644,699.38
2021	15,810,753.30	75.00	210,809.02	72.50	15,284,249.65
2023	599,335.09	75.00	7,991.10	74.50	595,342.56

FE 2023 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	283,177,859.90	75.00	3,775,686.38	64.23	242,496,505.77

Composite Average Remaining Life ... 64.23 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
365.20 OH Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1998	301.81	60.00	5.03	44.57	224.20
2004	21,790.27	60.00	363.16	48.13	17,480.04
2005	63,298.87	60.00	1,054.96	48.73	51,408.82
2006	49,203.23	60.00	820.04	49.33	40,451.98
2010	50,378.45	60.00	839.63	51.73	43,437.38
2013	20,577.69	60.00	342.96	53.55	18,365.52
2014	128,028.85	60.00	2,133.77	54.16	115,561.83
2015	42,608.75	60.00	710.13	54.77	38,892.34
2016	180,319.47	60.00	3,005.27	55.38	166,424.89
2017	55,068.99	60.00	917.80	55.99	51,387.42
2018	20,127.97	60.00	335.46	56.60	18,988.09
2019	2,841.43	60.00	47.36	57.22	2,709.62
2020	19,796.23	60.00	329.93	57.83	19,081.08
2022	5,802.18	60.00	96.70	59.07	5,712.10
2023	90,049.61	60.00	1,500.80	59.69	89,583.10
Total	750,193.80	60.00	12,503.00	54.36	679,708.42

Composite Average Remaining Life ... 54.36 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
365.30 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	88.32	75.00	1.18	58.57	68.97
2013	28,148.97	75.00	375.32	64.52	24,216.73
2016	8,920.01	75.00	118.93	67.51	8,029.45
Total	37,157.30	75.00	495.43	65.23	32,315.14

Composite Average Remaining Life ... 65.23 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	808,111.97	65.00	12,432.46	11.66	144,949.22
1945	3,543.91	65.00	54.52	12.37	674.23
1947	101,426.55	65.00	1,560.41	13.10	20,445.29
1948	2,538.17	65.00	39.05	13.48	526.45
1949	193,651.88	65.00	2,979.25	13.87	41,321.54
1950	52,945.40	65.00	814.54	14.27	11,619.84
1951	110,440.77	65.00	1,699.09	14.67	24,925.02
1952	72,412.29	65.00	1,114.03	15.08	16,802.54
1953	79,918.72	65.00	1,229.52	15.50	19,062.81
1954	55,078.98	65.00	847.37	15.93	13,502.30
1955	92,666.70	65.00	1,425.64	16.37	23,343.39
1956	62,427.63	65.00	960.42	16.82	16,156.01
1957	81,948.40	65.00	1,260.74	17.28	21,785.11
1959	113,769.31	65.00	1,750.29	18.22	31,893.19
1960	234,287.73	65.00	3,604.42	18.71	67,422.04
1961	115,003.57	65.00	1,769.28	19.20	33,970.77
1962	107,273.47	65.00	1,650.36	19.70	32,515.63
1963	102,500.06	65.00	1,576.92	20.22	31,878.57
1964	136,319.75	65.00	2,097.22	20.74	43,487.14
1965	275,670.59	65.00	4,241.08	21.27	90,197.66
1966	587,400.34	65.00	9,036.91	21.81	197,075.16
1967	713,658.68	65.00	10,979.34	22.36	245,450.44
1968	537,154.31	65.00	8,263.89	22.91	189,358.71
1969	700,756.17	65.00	10,780.84	23.48	253,128.08
1970	626,917.29	65.00	9,644.86	24.06	232,013.12
1971	791,444.02	65.00	12,176.04	24.64	299,997.66
1972	902,548.14	65.00	13,885.33	25.23	350,355.83

FE 2023 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	1,033,649.14	65.00	15,902.26	25.83	410,783.91
1974	873,878.66	65.00	13,444.26	26.44	355,502.25
1975	514,098.06	65.00	7,909.18	27.06	214,014.32
1976	524,887.29	65.00	8,075.17	27.69	223,574.12
1977	503,644.27	65.00	7,748.36	28.32	219,426.22
1978	512,636.50	65.00	7,886.70	28.96	228,422.78
1979	528,160.85	65.00	8,125.53	29.61	240,628.27
1980	340,795.70	65.00	5,243.00	30.27	158,711.12
1981	450,700.63	65.00	6,933.84	30.94	214,515.86
1982	417,918.59	65.00	6,429.50	31.61	203,235.64
1983	323,763.78	65.00	4,980.97	32.29	160,843.28
1984	382,772.39	65.00	5,888.79	32.98	194,204.01
1985	402,564.19	65.00	6,193.28	33.68	208,559.17
1986	671,777.42	65.00	10,335.01	34.38	355,280.04
1987	690,086.70	65.00	10,616.70	35.09	372,510.13
1988	772,510.39	65.00	11,884.75	35.80	425,502.05
1989	588,248.59	65.00	9,049.96	36.53	330,569.05
1990	802,045.35	65.00	12,339.13	37.26	459,703.61
1991	1,353,514.54	65.00	20,823.26	37.99	791,159.85
1992	1,205,954.92	65.00	18,553.11	38.74	718,709.39
1993	1,701,189.74	65.00	26,172.09	39.49	1,033,460.16
1994	838,209.35	65.00	12,895.50	40.24	518,965.75
1995	1,513,191.47	65.00	23,279.82	41.01	954,602.58
1996	608,180.85	65.00	9,356.61	41.77	390,872.16
1997	1,166,618.35	65.00	17,947.94	42.55	763,662.40
1998	1,360,292.06	65.00	20,927.52	43.33	906,796.96
1999	600,741.74	65.00	9,242.16	44.12	407,726.30

FE 2023 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2000	1,831,628.35	65.00	28,178.84	44.91	1,265,492.62
2001	1,403,405.14	65.00	21,590.80	45.71	986,836.47
2002	936,232.74	65.00	14,403.55	46.51	669,926.73
2003	8,925.61	65.00	137.32	47.32	6,497.74
2004	10,435.41	65.00	160.54	48.14	7,727.86
2005	28,033.70	65.00	431.29	48.96	21,114.08
2006	28,168.39	65.00	433.36	49.78	21,573.06
2007	5,120.40	65.00	78.78	50.61	3,987.00
2008	9,980.57	65.00	153.55	51.45	7,899.62
2009	3,205.10	65.00	49.31	52.29	2,578.34
2011	1,930,728.68	65.00	29,703.45	53.99	1,603,570.44
2012	443,334.55	65.00	6,820.52	54.84	374,043.05
2013	298,106.76	65.00	4,586.25	55.70	255,463.24
2014	203,289.09	65.00	3,127.52	56.57	176,911.73
2015	325,569.08	65.00	5,008.74	57.44	287,685.26
2016	89,552.10	65.00	1,377.72	58.31	80,334.58
2017	275,764.87	65.00	4,242.53	59.19	251,111.28
2018	1,758,148.89	65.00	27,048.39	60.07	1,624,854.68
2019	920,436.82	65.00	14,160.54	60.96	863,208.49
2020	777,838.81	65.00	11,966.73	61.85	740,144.68
2021	1,180,377.17	65.00	18,159.61	62.74	1,139,423.35
2022	1,092,235.21	65.00	16,803.58	63.64	1,069,455.17
2023	4,016,216.45	65.00	61,787.81	64.55	3,988,213.28
Total	45,920,580.21	65.00	706,468.94	41.56	29,363,851.83

Composite Average Remaining Life ... 41.56 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1956	8.08	44.00	0.18	3.63	0.67
1961	14.54	44.00	0.33	4.73	1.56
1962	123.56	44.00	2.81	4.97	13.94
1963	118.15	44.00	2.69	5.20	13.95
1964	183.12	44.00	4.16	5.43	22.62
1965	12,416.52	44.00	282.19	5.68	1,602.59
1966	62,572.91	44.00	1,422.11	5.93	8,432.85
1967	127,125.71	44.00	2,889.21	6.18	17,862.26
1968	536,918.92	44.00	12,202.67	6.45	78,678.11
1969	464,192.88	44.00	10,549.81	6.72	70,924.92
1970	610,416.39	44.00	13,873.06	7.01	97,241.05
1971	549,819.46	44.00	12,495.86	7.31	91,286.34
1972	767,907.11	44.00	17,452.39	7.62	132,955.35
1973	648,312.54	44.00	14,734.34	7.95	117,084.91
1974	708,078.24	44.00	16,092.64	8.29	133,423.54
1975	860,861.71	44.00	19,564.98	8.65	169,285.44
1976	676,652.71	44.00	15,378.43	9.03	138,911.95
1977	665,985.69	44.00	15,136.00	9.43	142,764.79
1978	786,228.28	44.00	17,868.78	9.85	176,037.56
1979	890,826.90	44.00	20,246.01	10.29	208,338.16
1980	1,087,139.97	44.00	24,707.66	10.75	265,573.08
1981	709,939.40	44.00	16,134.94	11.23	181,138.22
1982	1,134,510.80	44.00	25,784.27	11.73	302,350.88
1983	1,084,582.63	44.00	24,649.54	12.24	301,796.37
1984	964,194.81	44.00	21,913.46	12.78	280,043.36
1985	845,818.34	44.00	19,223.09	13.34	256,356.02
1986	1,293,798.57	44.00	29,404.43	13.91	408,981.02

FE 2023 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1987	1,965,574.60	44.00	44,672.03	14.50	647,694.70
1988	2,974,192.12	44.00	67,595.09	15.11	1,021,053.15
1989	3,324,303.48	44.00	75,552.14	15.73	1,188,457.44
1990	3,326,596.93	44.00	75,604.27	16.37	1,237,562.02
1991	4,403,999.26	44.00	100,090.62	17.02	1,703,764.61
1992	5,698,159.36	44.00	129,503.26	17.69	2,290,859.14
1993	5,649,284.40	44.00	128,392.47	18.37	2,358,965.53
1994	3,729,818.05	44.00	84,768.36	19.07	1,616,357.23
1995	6,796,371.74	44.00	154,462.57	19.78	3,054,553.38
1996	5,287,756.84	44.00	120,175.96	20.49	2,463,004.82
1997	6,209,345.43	44.00	141,121.10	21.23	2,995,866.90
1998	4,990,742.37	44.00	113,425.65	21.97	2,492,272.49
1999	3,253,478.71	44.00	73,942.49	22.73	1,680,533.52
2000	3,077,517.74	44.00	69,943.39	23.50	1,643,326.44
2001	2,791,311.50	44.00	63,438.72	24.27	1,539,791.12
2002	1,888,767.13	44.00	42,926.41	25.06	1,075,710.30
2003	3,718,311.95	44.00	84,506.86	25.86	2,185,074.04
2004	3,224,968.58	44.00	73,294.54	26.67	1,954,457.43
2005	4,055,464.57	44.00	92,169.40	27.48	2,533,105.56
2006	4,274,757.78	44.00	97,153.32	28.31	2,750,389.68
2007	2,370,539.08	44.00	53,875.74	29.15	1,570,297.26
2008	3,913,518.77	44.00	88,943.36	29.99	2,667,555.77
2009	3,142,404.75	44.00	71,418.09	30.85	2,202,893.81
2010	4,159,179.92	44.00	94,526.56	31.71	2,997,117.39
2011	14,033,273.81	44.00	318,937.16	32.58	10,390,113.49
2012	8,321,184.33	44.00	189,117.30	33.45	6,326,888.70
2013	6,292,948.58	44.00	143,021.16	34.34	4,911,293.58

FE 2023 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	7,250,709.42	44.00	164,788.40	35.23	5,805,723.18
2015	9,127,582.14	44.00	207,444.48	36.13	7,495,165.76
2016	7,208,902.09	44.00	163,838.23	37.04	6,067,930.02
2017	7,442,004.77	44.00	169,136.01	37.95	6,418,252.41
2018	9,317,969.13	44.00	211,771.44	38.86	8,230,327.73
2019	7,928,279.48	44.00	180,187.67	39.79	7,169,235.70
2020	8,461,501.96	44.00	192,306.33	40.72	7,829,829.72
2021	12,100,267.51	44.00	275,005.32	41.65	11,453,435.33
2022	11,025,116.81	44.00	250,570.15	42.59	10,670,760.45
2023	11,069,680.85	44.00	251,582.96	43.53	10,950,828.78
Total	229,294,533.88	44.00	5,211,225.03	29.78	155,171,570.09

Composite Average Remaining Life ... 29.78 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
367.10 Underground Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	3,221.73	44.00	73.22	28.31	2,072.87
2007	855.78	44.00	19.45	29.15	566.89
2008	989.89	44.00	22.50	29.99	674.73
2009	7.03	44.00	0.16	30.85	4.93
2012	19,278.06	44.00	438.14	33.45	14,657.79
2013	65,089.93	44.00	1,479.31	34.34	50,799.04
2014	86,367.01	44.00	1,962.88	35.23	69,155.02
2015	871.02	44.00	19.80	36.13	715.24
2016	1,503.27	44.00	34.17	37.04	1,265.34
2017	48,576.37	44.00	1,104.01	37.95	41,894.01
2018	79.43	44.00	1.81	38.86	70.16
2019	0.18	44.00	0.00	39.79	0.16
2020	371,258.94	44.00	8,437.68	40.72	343,543.53
2021	385,924.43	44.00	8,770.99	41.65	365,294.44
2022	8,142.49	44.00	185.06	42.59	7,880.78
2023	294,018.51	44.00	6,682.22	43.53	290,861.72
Total	1,286,184.07	44.00	29,231.38	40.69	1,189,456.66

Composite Average Remaining Life ... 40.69 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1929	1,340.02	0.00	0.00	0.00	0.00
1943	15,447.76	44.00	351.08	2.65	929.09
1944	1,328.98	44.00	30.20	2.95	89.24
1945	816.86	44.00	18.56	3.25	60.28
1946	3,538.86	44.00	80.43	3.54	285.05
1947	6,316.25	44.00	143.55	3.84	551.40
1948	4,351.67	44.00	98.90	4.14	409.40
1949	69,997.34	44.00	1,590.81	4.43	7,052.54
1950	91,592.90	44.00	2,081.61	4.74	9,860.26
1951	243,112.13	44.00	5,525.14	5.04	27,872.40
1952	140,571.50	44.00	3,194.73	5.36	17,113.85
1953	223,266.67	44.00	5,074.12	5.67	28,762.23
1954	241,524.93	44.00	5,489.07	5.99	32,878.24
1955	285,655.07	44.00	6,492.00	6.32	41,005.58
1956	318,916.02	44.00	7,247.91	6.65	48,163.00
1957	560,877.58	44.00	12,746.90	6.98	88,993.63
1958	707,210.75	44.00	16,072.57	7.32	117,710.33
1959	744,075.78	44.00	16,910.39	7.67	129,725.41
1960	669,935.57	44.00	15,225.43	8.02	122,143.93
1961	703,265.07	44.00	15,982.90	8.38	133,951.90
1962	674,125.24	44.00	15,320.65	8.75	133,985.18
1963	826,477.83	44.00	18,783.12	9.11	171,201.64
1964	724,842.81	44.00	16,473.29	9.49	156,342.49
1965	932,697.94	44.00	21,197.15	9.87	209,275.86
1966	1,187,122.42	44.00	26,979.38	10.26	276,840.32
1967	1,166,515.54	44.00	26,511.06	10.66	282,480.14
1968	1,119,245.97	44.00	25,436.78	11.06	281,230.85

FE 2023 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	1,215,443.58	44.00	27,623.03	11.46	316,655.71
1970	1,344,407.40	44.00	30,553.95	11.88	362,902.67
1971	1,311,475.98	44.00	29,805.53	12.30	366,547.96
1972	1,470,455.95	44.00	33,418.62	12.73	425,268.11
1973	1,835,016.44	44.00	41,703.88	13.16	548,818.08
1974	1,761,811.39	44.00	40,040.17	13.60	544,596.64
1975	1,012,375.67	44.00	23,007.97	14.05	323,265.84
1976	1,409,138.08	44.00	32,025.07	14.51	464,556.81
1977	2,125,233.96	44.00	48,299.57	14.97	723,005.13
1978	2,387,756.51	44.00	54,265.84	15.44	837,882.04
1979	2,468,892.17	44.00	56,109.79	15.92	893,189.92
1980	2,041,976.72	44.00	46,407.41	16.40	761,287.52
1981	2,730,225.35	44.00	62,049.03	16.90	1,048,496.47
1982	3,145,986.29	44.00	71,497.91	17.40	1,244,063.10
1983	3,425,979.07	44.00	77,861.22	17.91	1,394,434.41
1984	4,493,049.94	44.00	102,112.23	18.43	1,881,542.10
1985	6,441,164.40	44.00	146,386.46	18.95	2,774,299.72
1986	7,449,132.06	44.00	169,294.24	19.48	3,298,692.34
1987	5,039,735.87	44.00	114,536.60	20.03	2,293,693.42
1988	6,733,086.12	44.00	153,020.88	20.57	3,148,334.69
1989	7,793,401.73	44.00	177,118.36	21.13	3,742,896.02
1990	6,452,510.18	44.00	146,644.31	21.70	3,181,723.96
1991	4,944,174.01	44.00	112,364.79	22.27	2,502,279.30
1992	6,695,902.45	44.00	152,175.81	22.85	3,477,093.93
1993	6,496,814.35	44.00	147,651.20	23.44	3,460,647.46
1994	5,588,457.32	44.00	127,007.23	24.03	3,052,398.54
1995	7,169,486.70	44.00	162,938.82	24.64	4,014,116.75

FE 2023 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	2,872,639.65	44.00	65,285.64	25.25	1,648,150.04
1997	5,478,992.88	44.00	124,519.47	25.86	3,220,455.47
1998	4,582,917.74	44.00	104,154.63	26.49	2,758,690.29
1999	5,298,681.13	44.00	120,421.57	27.12	3,265,384.78
2000	9,757,226.18	44.00	221,749.62	27.75	6,154,281.81
2001	7,140,283.08	44.00	162,275.12	28.40	4,607,884.36
2002	6,910,295.77	44.00	157,048.27	29.04	4,561,194.81
2003	7,632,866.98	44.00	173,469.93	29.70	5,151,413.94
2004	14,070,583.14	44.00	319,778.02	30.36	9,706,984.54
2005	19,439,096.77	44.00	441,786.66	31.02	13,703,511.10
2006	16,497,632.30	44.00	374,936.86	31.69	11,880,148.28
2007	10,886,700.84	44.00	247,418.86	32.36	8,005,940.26
2008	16,705,987.29	44.00	379,672.08	33.03	12,541,845.46
2009	13,712,114.28	44.00	311,631.20	33.71	10,505,845.44
2010	12,249,553.67	44.00	278,392.02	34.39	9,575,258.25
2011	33,120,107.61	44.00	752,710.98	35.08	26,406,128.91
2012	15,589,525.31	44.00	354,298.57	35.77	12,673,524.10
2013	10,607,778.55	44.00	241,079.88	36.46	8,790,639.15
2014	9,807,063.78	44.00	222,882.27	37.16	8,282,329.47
2015	7,812,877.88	44.00	177,560.99	37.86	6,722,710.39
2016	9,357,779.25	44.00	212,671.51	38.57	8,201,926.80
2017	9,240,115.24	44.00	209,997.39	39.28	8,247,675.12
2018	9,858,866.81	44.00	224,059.58	39.99	8,959,793.14
2019	13,321,854.15	44.00	302,761.88	40.71	12,324,659.81
2020	13,259,498.02	44.00	301,344.73	41.43	12,484,817.50
2021	14,478,220.88	44.00	329,042.28	42.16	13,871,798.24
2022	16,646,571.54	44.00	378,321.75	42.89	16,226,879.88

FE 2023 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	15,035,796.83	44.00	341,714.15	43.63	14,908,989.00
Total	448,018,886.70	43.46	10,181,963.53	30.92	314,790,463.22

Composite Average Remaining Life ... 30.92 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	48,024.33	60.00	800.39	13.18	10,549.54
1944	1,798.47	60.00	29.97	13.57	406.61
1945	4,000.33	60.00	66.67	13.95	930.30
1946	8,349.62	60.00	139.16	14.35	1,996.43
1947	16,303.64	60.00	271.72	14.74	4,006.38
1948	28,284.10	60.00	471.39	15.15	7,140.31
1949	25,167.68	60.00	419.45	15.55	6,524.40
1950	27,055.60	60.00	450.92	15.97	7,199.82
1951	29,999.69	60.00	499.98	16.38	8,191.75
1952	31,475.24	60.00	524.58	16.81	8,816.06
1953	36,894.89	60.00	614.90	17.23	10,596.73
1954	35,737.72	60.00	595.62	17.67	10,521.77
1955	49,674.63	60.00	827.89	18.10	14,987.13
1956	181,157.37	60.00	3,019.23	18.54	55,991.51
1957	264,315.32	60.00	4,405.17	18.99	83,666.99
1958	248,341.26	60.00	4,138.94	19.45	80,486.47
1959	294,877.05	60.00	4,914.52	19.90	97,822.01
1960	352,964.62	60.00	5,882.63	20.37	119,819.08
1961	390,975.62	60.00	6,516.13	20.84	135,782.37
1962	474,784.94	60.00	7,912.93	21.31	168,647.01
1963	559,880.42	60.00	9,331.15	21.79	203,353.24
1964	556,984.44	60.00	9,282.89	22.28	206,816.17
1965	669,889.17	60.00	11,164.60	22.77	254,230.36
1966	637,401.38	60.00	10,623.15	23.27	247,180.20
1967	602,185.30	60.00	10,036.22	23.77	238,576.75
1968	564,015.08	60.00	9,400.06	24.28	228,228.90
1969	611,830.90	60.00	10,196.98	24.79	252,832.08

FE 2023 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	592,610.10	60.00	9,876.64	25.32	250,033.84
1971	678,310.14	60.00	11,304.94	25.84	292,143.70
1972	727,362.77	60.00	12,122.47	26.37	319,714.33
1973	785,669.34	60.00	13,094.23	26.91	352,392.93
1974	695,084.05	60.00	11,584.50	27.45	318,049.41
1975	643,467.96	60.00	10,724.25	28.01	300,333.63
1976	739,496.75	60.00	12,324.70	28.56	352,005.38
1977	771,865.14	60.00	12,864.16	29.12	374,634.31
1978	726,201.61	60.00	12,103.12	29.69	359,325.46
1979	724,818.30	60.00	12,080.06	30.26	365,564.67
1980	754,925.33	60.00	12,581.84	30.84	388,010.46
1981	1,161,810.81	60.00	19,363.13	31.42	608,460.97
1982	1,131,120.89	60.00	18,851.64	32.01	603,510.27
1983	992,181.59	60.00	16,536.03	32.61	539,220.42
1984	1,140,132.64	60.00	19,001.83	33.21	631,024.05
1985	1,104,857.05	60.00	18,413.92	33.81	622,662.21
1986	1,023,102.54	60.00	17,051.37	34.42	586,984.04
1987	963,972.85	60.00	16,065.89	35.04	562,969.29
1988	986,019.12	60.00	16,433.33	35.66	586,057.03
1989	877,590.73	60.00	14,626.22	36.29	530,766.83
1990	1,172,505.91	60.00	19,541.38	36.92	721,442.63
1991	1,567,419.62	60.00	26,123.14	37.55	981,037.28
1992	961,915.96	60.00	16,031.61	38.19	612,292.91
1993	2,740,301.10	60.00	45,670.78	38.84	1,773,737.53
1994	787,410.27	60.00	13,123.24	39.49	518,183.16
1995	1,214,207.93	60.00	20,236.40	40.14	812,248.78
1996	1,376,272.05	60.00	22,937.41	40.79	935,692.64

FE 2023 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	1,298,312.25	60.00	21,638.11	41.45	896,966.18
1998	2,391,222.48	60.00	39,852.92	42.11	1,678,405.29
1999	2,322,463.69	60.00	38,706.96	42.78	1,655,952.45
2000	1,610,663.96	60.00	26,843.87	43.45	1,166,403.67
2001	1,412,132.11	60.00	23,535.07	44.12	1,038,455.94
2002	1,391,431.96	60.00	23,190.07	44.80	1,038,879.09
2003	613,774.68	60.00	10,229.37	45.48	465,196.81
2004	22,097.79	60.00	368.29	46.16	16,998.82
2005	55,544.39	60.00	925.72	46.84	43,360.42
2006	842,106.81	60.00	14,034.83	47.53	667,009.68
2007	1,782,493.61	60.00	29,707.64	48.21	1,432,275.72
2008	1,387,622.59	60.00	23,126.58	48.90	1,130,965.77
2009	569,063.46	60.00	9,484.20	49.60	470,384.44
2010	713,336.60	60.00	11,888.71	50.29	597,901.94
2011	7,651,482.16	60.00	127,522.17	50.99	6,502,449.64
2012	2,083,363.04	60.00	34,722.03	51.69	1,794,872.84
2013	1,893,929.83	60.00	31,564.87	52.40	1,653,915.36
2014	1,467,883.77	60.00	24,464.24	53.10	1,299,164.91
2015	1,764,798.29	60.00	29,412.72	53.82	1,582,873.21
2016	2,446,823.18	60.00	40,779.58	54.53	2,223,682.38
2017	1,920,724.73	60.00	32,011.44	55.25	1,768,554.21
2018	2,312,004.90	60.00	38,532.65	55.97	2,156,636.42
2019	3,184,535.94	60.00	53,074.54	56.69	3,009,003.12
2020	2,917,873.43	60.00	48,630.26	57.42	2,792,437.64
2021	4,183,338.75	60.00	69,720.93	58.15	4,054,569.65
2022	3,970,385.08	60.00	66,171.77	58.89	3,896,804.05
2023	3,656,269.65	60.00	60,936.62	59.63	3,633,626.78

FE 2023 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	89,658,680.49	60.00	1,494,281.65	44.46	66,431,544.96

Composite Average Remaining Life ... *44.46 Years*

FE 2023 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	892.72	60.00	14.88	13.18	196.10
1948	3,348.74	60.00	55.81	15.15	845.39
1949	5,928.62	60.00	98.81	15.55	1,536.92
1950	5,392.25	60.00	89.87	15.97	1,434.94
1951	3,703.76	60.00	61.73	16.38	1,011.35
1952	5,066.27	60.00	84.44	16.81	1,419.04
1953	6,753.36	60.00	112.55	17.23	1,939.66
1954	12,214.06	60.00	203.56	17.67	3,596.02
1955	6,746.94	60.00	112.45	18.10	2,035.59
1956	11,257.69	60.00	187.62	18.54	3,479.49
1957	10,034.85	60.00	167.24	18.99	3,176.45
1958	8,932.09	60.00	148.87	19.45	2,894.86
1959	8,741.35	60.00	145.69	19.90	2,899.84
1960	9,747.87	60.00	162.46	20.37	3,309.06
1961	5,427.59	60.00	90.46	20.84	1,884.95
1962	8,999.08	60.00	149.98	21.31	3,196.54
1963	9,267.84	60.00	154.46	21.79	3,366.16
1964	9,749.13	60.00	162.48	22.28	3,619.99
1965	20,813.67	60.00	346.89	22.77	7,899.02
1966	298,444.80	60.00	4,973.98	23.27	115,735.00
1967	471,783.79	60.00	7,862.91	23.77	186,913.64
1968	571,150.16	60.00	9,518.98	24.28	231,116.12
1969	529,450.14	60.00	8,823.99	24.79	218,789.18
1970	506,950.52	60.00	8,449.01	25.32	213,892.38
1971	372,809.26	60.00	6,213.36	25.84	160,566.49
1972	425,360.27	60.00	7,089.20	26.37	186,968.29
1973	470,428.86	60.00	7,840.33	26.91	210,999.45

FE 2023 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1974	454,234.84	60.00	7,570.43	27.45	207,844.10
1975	413,872.64	60.00	6,897.74	28.01	193,171.81
1976	465,240.01	60.00	7,753.85	28.56	221,457.35
1977	523,047.30	60.00	8,717.28	29.12	253,867.49
1978	578,773.96	60.00	9,646.04	29.69	286,378.08
1979	830,455.36	60.00	13,840.65	30.26	418,843.10
1980	603,843.81	60.00	10,063.86	30.84	310,358.79
1981	565,656.83	60.00	9,427.43	31.42	296,244.53
1982	539,935.31	60.00	8,998.74	32.01	288,082.83
1983	633,071.79	60.00	10,550.99	32.61	344,055.20
1984	862,892.34	60.00	14,381.25	33.21	477,581.12
1985	380,899.85	60.00	6,348.20	33.81	214,663.01
1986	764,161.98	60.00	12,735.78	34.42	438,422.22
1987	948,008.94	60.00	15,799.84	35.04	553,646.22
1988	1,039,519.96	60.00	17,324.99	35.66	617,856.16
1989	1,027,579.99	60.00	17,125.99	36.29	621,480.33
1990	1,531,054.55	60.00	25,517.07	36.92	942,057.53
1991	2,084,144.74	60.00	34,735.06	37.55	1,304,452.02
1992	342,511.74	60.00	5,708.42	38.19	218,020.62
1993	3,473,725.04	60.00	57,894.27	38.84	2,248,466.96
1994	1,053,335.11	60.00	17,555.24	39.49	693,184.40
1995	3,082,176.49	60.00	51,368.59	40.14	2,061,833.11
1996	2,171,600.44	60.00	36,192.62	40.79	1,476,416.35
1997	2,653,231.48	60.00	44,219.65	41.45	1,833,040.48
1998	2,419,053.64	60.00	40,316.76	42.11	1,697,940.06
1999	3,713,599.73	60.00	61,892.10	42.78	2,647,853.91
2000	2,415,235.44	60.00	40,253.12	43.45	1,749,054.77

FE 2023 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	2,700,963.35	60.00	45,015.16	44.12	1,986,238.69
2002	2,833,463.20	60.00	47,223.45	44.80	2,115,536.91
2003	1,217,630.34	60.00	20,293.44	45.48	922,875.73
2006	463,815.83	60.00	7,730.11	47.53	367,375.78
2007	812,200.53	60.00	13,536.41	48.21	652,622.31
2008	677,871.11	60.00	11,297.63	48.90	552,491.02
2013	1,119.85	60.00	18.66	52.40	977.93
Total	48,077,323.20	60.00	801,272.80	38.43	30,789,112.81

Composite Average Remaining Life ... 38.43 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	19,262.46	15.00	1,284.16	5.43	6,971.53
2013	14,150.70	15.00	943.38	5.99	5,653.44
2014	111,609.19	15.00	7,440.61	6.61	49,187.14
2015	6,935,201.93	15.00	462,346.81	7.29	3,368,562.79
2016	35,531,302.98	15.00	2,368,753.62	8.02	19,003,171.16
2017	34,511,479.33	15.00	2,300,765.38	8.82	20,291,913.70
2018	29,717,920.41	15.00	1,981,194.77	9.67	19,166,577.62
2019	9,901,141.93	15.00	660,076.15	10.58	6,984,511.13
2020	6,897,781.36	15.00	459,852.11	11.53	5,302,052.30
2021	6,021,075.68	15.00	401,405.06	12.51	5,020,459.84
2022	5,454,469.19	15.00	363,631.29	13.50	4,909,309.12
2023	5,516,062.78	15.00	367,737.53	14.50	5,332,196.06
Total	140,631,457.94	15.00	9,375,430.89	9.54	89,440,565.81

Composite Average Remaining Life ... 9.54 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1900	47,396.58	0.00	0.00	0.00	0.00
1952	4,304.37	0.00	0.00	0.00	0.00
1953	63.56	0.00	0.00	0.00	0.00
1954	248.41	0.00	0.00	0.00	0.00
1957	42.14	0.00	0.00	0.00	0.00
1958	738.28	0.00	0.00	0.00	0.00
1959	40.52	0.00	0.00	0.00	0.00
1960	5,137.23	0.00	0.00	0.00	0.00
1961	17,922.85	0.00	0.00	0.00	0.00
1962	29,660.21	0.00	0.00	0.00	0.00
1963	107,519.55	0.00	0.00	0.00	0.00
1964	49,611.29	30.00	1,653.62	0.50	826.81
1965	67,486.47	30.00	2,249.43	0.82	1,853.02
1966	78,196.20	30.00	2,606.40	1.27	3,311.06
1967	235.42	30.00	7.85	1.73	13.55
1968	915.25	30.00	30.51	2.18	66.59
1971	234.47	30.00	7.82	3.49	27.27
1973	260.58	30.00	8.69	4.31	37.47
1974	12,740.78	30.00	424.67	4.72	2,003.30
1976	653.83	30.00	21.79	5.51	120.14
1977	687.79	30.00	22.93	5.91	135.44
1978	1,454.90	30.00	48.49	6.30	305.69
1979	26,027.43	30.00	867.53	6.70	5,811.82
1980	14,891.30	30.00	496.35	7.10	3,522.85
1981	269,915.25	30.00	8,996.69	7.50	67,462.46
1982	381,260.61	30.00	12,708.00	7.90	100,425.20
1983	352,765.47	30.00	11,758.21	8.31	97,722.56

FE 2023 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1984	427,655.31	30.00	14,254.41	8.72	124,357.72
1985	472,578.37	30.00	15,751.76	9.14	144,005.51
1986	629,108.77	30.00	20,969.16	9.57	200,591.87
1987	765,747.70	30.00	25,523.54	10.00	255,130.45
1988	847,460.16	30.00	28,247.14	10.43	294,674.98
1989	1,045,982.40	30.00	34,864.19	10.87	379,143.28
1990	2,620,165.53	30.00	87,334.13	11.32	989,022.35
1991	842,694.02	30.00	28,088.28	11.78	330,924.77
1992	431,092.72	30.00	14,368.98	12.25	175,960.24
1993	695,648.54	30.00	23,187.03	12.72	294,881.82
1994	682,917.80	30.00	22,762.70	13.20	300,402.19
1995	2,590,636.03	30.00	86,349.86	13.68	1,181,628.27
1996	2,128,263.50	30.00	70,938.28	14.18	1,005,829.39
1997	2,964,720.78	30.00	98,818.68	14.68	1,450,837.54
1998	2,460,947.78	30.00	82,027.16	15.19	1,246,164.49
1999	68,845.05	30.00	2,294.71	15.71	36,049.75
2000	215,303.80	30.00	7,176.41	16.24	116,514.14
2001	112,406.44	30.00	3,746.68	16.77	62,826.23
2003	155,316.20	30.00	5,176.93	17.86	92,436.84
2004	358,178.91	30.00	11,938.65	18.41	219,778.05
2005	414,539.51	30.00	13,817.24	18.97	262,092.62
2006	504,394.83	30.00	16,812.25	19.53	328,417.48
2007	145,512.25	30.00	4,850.15	20.11	97,514.13
2008	160,500.52	30.00	5,349.73	20.68	110,639.51
2009	165,452.85	30.00	5,514.80	21.26	117,256.69
2010	425,047.88	30.00	14,167.50	21.85	309,514.71
2011	1,449,816.84	30.00	48,324.61	22.43	1,084,161.58

FE 2023 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	628,669.11	30.00	20,954.50	23.03	482,510.81
2013	442,064.45	30.00	14,734.68	23.62	348,043.14
2014	601,699.27	30.00	20,055.56	24.22	485,686.99
2015	263,409.33	30.00	8,779.84	24.82	217,879.43
2016	131,325.43	30.00	4,377.28	25.42	111,255.37
2017	139,676.01	30.00	4,655.62	26.02	121,136.35
2018	124,208.42	30.00	4,140.06	26.62	110,228.56
2019	181,440.86	30.00	6,047.70	27.23	164,694.90
2020	145,360.20	30.00	4,845.08	27.84	134,901.29
2021	120,301.13	30.00	4,009.82	28.46	114,104.61
2022	131,897.39	30.00	4,396.34	29.07	127,811.33
2023	145,588.34	30.00	4,852.68	29.69	144,080.74
Total	28,306,985.17	25.00	936,413.06	15.01	14,056,735.37

Composite Average Remaining Life ... 15.01 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
371.21 Installations - Meter Socket Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	213,010.45	25.00	8,520.35	5.33	45,442.78
1998	10,728.04	25.00	429.12	5.76	2,470.15
Total	223,738.49	25.00	8,949.47	5.35	47,912.93

Composite Average Remaining Life ... 5.35 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
372.00 Leased Property on Customer Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 40 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1948	335.18	0.00	0.00	0.00	0.00
1949	2,134.65	0.00	0.00	0.00	0.00
1950	102.34	0.00	0.00	0.00	0.00
1951	1,809.13	0.00	0.00	0.00	0.00
1952	175.35	0.00	0.00	0.00	0.00
1953	178.68	0.00	0.00	0.00	0.00
1954	8.19	0.00	0.00	0.00	0.00
1956	4,065.11	0.00	0.00	0.00	0.00
1957	71.78	40.00	1.79	0.50	0.90
1960	1,914.20	40.00	47.85	1.04	49.83
1963	4,455.30	40.00	111.38	1.74	193.39
1965	14,198.77	40.00	354.97	2.24	794.49
1966	87.97	40.00	2.20	2.50	5.50
1967	3,448.43	40.00	86.21	2.75	236.95
1969	1,525.04	40.00	38.13	3.26	124.32
1971	1,949.76	40.00	48.74	3.78	184.13
1973	749.44	40.00	18.74	4.31	80.78
1976	819.15	40.00	20.48	5.19	106.21
1977	1,624.26	40.00	40.61	5.50	223.51
1978	51,610.51	40.00	1,290.26	5.84	7,538.00
1980	993.51	40.00	24.84	6.58	163.32
1983	5,270.38	40.00	131.76	7.84	1,033.36
1984	6,090.82	40.00	152.27	8.31	1,265.56
1985	12,547.43	40.00	313.69	8.81	2,762.12
1988	3,275.76	40.00	81.89	10.43	853.76
1991	6,061.78	40.00	151.54	12.25	1,856.03
1992	17,393.03	40.00	434.83	12.89	5,606.70

FE 2023 Study - Pennsylvania Electric
Electric Division
372.00 Leased Property on Customer Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *40* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	35,509.93	40.00	887.75	21.10	18,735.27
2006	17,907.26	40.00	447.68	23.63	10,578.21
Total	196,313.14	28.97	4,687.61	11.18	52,392.34

Composite Average Remaining Life ... 11.18 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1900	386.34	0.00	0.00	0.00	0.00
1958	44,838.75	0.00	0.00	0.00	0.00
1985	131.10	20.00	6.55	0.67	4.37
1990	972.87	20.00	48.64	2.15	104.38
1991	1,708.89	20.00	85.44	2.45	209.59
1992	946.30	20.00	47.31	2.77	130.93
1993	146.61	20.00	7.33	3.10	22.70
1994	12,551.30	20.00	627.52	3.44	2,155.56
1995	52,178.72	20.00	2,608.76	3.79	9,882.36
1996	46,106.36	20.00	2,305.16	4.15	9,572.59
1997	33,876.27	20.00	1,693.70	4.53	7,675.16
1998	21,489.91	20.00	1,074.42	4.92	5,289.97
1999	837,745.77	20.00	41,884.45	5.33	223,253.97
2000	705,927.55	20.00	35,293.99	5.75	202,993.70
2001	717,596.68	20.00	35,877.40	6.19	222,012.64
2002	626,050.75	20.00	31,300.42	6.64	207,857.28
2003	65,861.11	20.00	3,292.83	7.11	23,410.54
2004	264,326.84	20.00	13,215.45	7.60	100,372.96
2005	342,784.86	20.00	17,138.08	8.10	138,775.17
2006	476,771.49	20.00	23,836.96	8.62	205,425.49
2007	244,826.93	20.00	12,240.52	9.16	112,063.30
2008	683,584.36	20.00	34,176.90	9.71	331,879.82
2009	602,854.87	20.00	30,140.70	10.28	309,923.35
2010	1,158,141.58	20.00	57,903.16	10.87	629,537.54
2011	4,087,709.96	20.00	204,371.65	11.48	2,345,618.98
2012	2,505,147.97	20.00	125,248.91	12.10	1,515,315.94
2013	1,600,407.53	20.00	80,014.95	12.73	1,018,827.09

FE 2023 Study - Pennsylvania Electric
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	1,831,920.86	20.00	91,589.84	13.38	1,225,580.84
2015	1,748,041.63	20.00	87,396.16	14.04	1,227,045.59
2016	1,872,170.19	20.00	93,602.17	14.71	1,376,842.16
2017	1,473,467.50	20.00	73,668.38	15.39	1,133,525.71
2018	1,896,169.36	20.00	94,802.04	16.07	1,523,675.83
2019	1,975,844.28	20.00	98,785.52	16.77	1,656,155.89
2020	1,953,837.05	20.00	97,685.23	17.47	1,706,267.88
2021	1,995,059.63	20.00	99,746.22	18.18	1,813,144.03
2022	1,935,591.57	20.00	96,773.02	18.90	1,828,915.04
2023	2,498,905.95	20.00	124,936.83	19.63	2,452,598.82
Total	34,316,079.69	18.92	1,713,426.63	13.75	23,566,067.16

Composite Average Remaining Life ... 13.75 Years

FE 2023 Study - Pennsylvania Electric
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	657,639.93	20.00	32,879.77	14.71	483,645.34
2017	1,593,055.79	20.00	79,647.39	15.39	1,225,523.94
2018	1,212,684.88	20.00	60,630.14	16.07	974,458.65
2019	805,794.14	20.00	40,286.98	16.77	675,417.96
2020	775,343.49	20.00	38,764.55	17.47	677,100.32
2021	1,456,142.07	20.00	72,802.17	18.18	1,323,366.61
2022	850,058.17	20.00	42,500.03	18.90	803,208.79
2023	1,216,148.56	20.00	60,803.31	19.63	1,193,612.16
Total	8,566,867.03	20.00	428,314.33	17.18	7,356,333.77

Composite Average Remaining Life ... 17.18 Years

FE 2023 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1910	59.89	0.00	0.00	0.00	0.00
1924	65.89	70.00	0.94	1.52	1.44
1927	1,338.81	70.00	19.13	2.20	42.09
1928	266.76	70.00	3.81	2.42	9.21
1929	3,587.35	70.00	51.25	2.66	136.50
1930	3,029.31	70.00	43.28	2.92	126.38
1934	1,216.67	70.00	17.38	3.91	67.96
1938	223.85	70.00	3.20	4.96	15.87
1939	34.27	70.00	0.49	5.24	2.57
1944	522.08	70.00	7.46	6.68	49.85
1947	1,855.08	70.00	26.50	7.65	202.74
1948	215.89	70.00	3.08	8.00	24.68
1949	6,217.69	70.00	88.82	8.37	743.20
1950	6,777.10	70.00	96.82	8.75	847.18
1951	4,280.02	70.00	61.14	9.15	559.54
1952	16,254.82	70.00	232.21	9.57	2,223.27
1953	13,507.19	70.00	192.96	10.02	1,932.59
1954	9,941.99	70.00	142.03	10.48	1,488.90
1955	2,714.59	70.00	38.78	10.97	425.39
1956	7,310.14	70.00	104.43	11.48	1,199.21
1957	9,190.64	70.00	131.29	12.02	1,577.75
1958	13,057.47	70.00	186.53	12.57	2,344.97
1959	4,256.10	70.00	60.80	13.16	799.95
1961	10.71	70.00	0.15	14.38	2.20
1962	6,803.00	70.00	97.19	15.02	1,459.30
1963	6,479.39	70.00	92.56	15.67	1,450.50
1964	781.06	70.00	11.16	16.33	182.26

FE 2023 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1965	117.04	70.00	1.67	17.01	28.44
1966	26,654.95	70.00	380.78	17.70	6,739.27
1967	4,029.96	70.00	57.57	18.39	1,058.86
1968	6,972.93	70.00	99.61	19.10	1,902.64
1969	3,078.15	70.00	43.97	19.81	871.32
1970	466.52	70.00	6.66	20.54	136.91
1971	8,281.18	70.00	118.30	21.28	2,517.26
1972	7,556.88	70.00	107.95	22.02	2,377.51
1973	5,801.42	70.00	82.88	22.78	1,888.31
1974	21,033.15	70.00	300.47	23.55	7,076.61
1975	14,042.40	70.00	200.60	24.33	4,881.48
1976	11,138.09	70.00	159.11	25.12	3,997.45
1977	5,672.38	70.00	81.03	25.93	2,100.87
1978	4,503.96	70.00	64.34	26.74	1,720.31
1979	27,845.59	70.00	397.79	27.56	10,962.00
1982	5,554.61	70.00	79.35	30.09	2,387.45
1984	13,214.70	70.00	188.78	31.82	6,006.92
1985	4,676.60	70.00	66.81	32.70	2,184.53
1986	35,825.65	70.00	511.79	33.58	17,188.51
1988	12,435.94	70.00	177.66	35.39	6,286.51
1989	36,605.13	70.00	522.93	36.30	18,981.64
1990	44,790.15	70.00	639.86	37.22	23,813.20
1991	20,285.00	70.00	289.78	38.14	11,053.10
1992	4,459.72	70.00	63.71	39.07	2,489.38
1993	139,362.39	70.00	1,990.88	40.01	79,655.16
1994	23,380.46	70.00	334.00	40.95	13,678.96
1995	857.36	70.00	12.25	41.90	513.21

FE 2023 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	64,611.47	70.00	923.02	42.86	39,556.76
2007	224,734.80	70.00	3,210.48	53.57	171,996.85
2008	91,872.95	70.00	1,312.46	54.56	71,611.45
2009	143,714.14	70.00	2,053.05	55.55	114,052.15
2011	10,268.96	70.00	146.70	57.54	8,440.57
2014	24,651.64	70.00	352.16	60.52	21,313.10
2015	285,014.30	70.00	4,071.61	61.52	250,471.23
2016	433,664.06	70.00	6,195.17	62.51	387,278.90
2017	480,024.31	70.00	6,857.46	63.51	435,518.99
2018	23,367.39	70.00	333.82	64.51	21,533.90
2019	10,393.30	70.00	148.47	65.51	9,725.99
2020	339,873.23	70.00	4,855.31	66.50	322,898.46
2021	514,167.43	70.00	7,345.21	67.50	495,822.41
2022	202,953.40	70.00	2,899.32	68.50	198,608.35
2023	4,595.62	70.00	65.65	69.50	4,562.82
Total	3,462,547.07	68.99	49,463.86	56.68	2,803,805.20

Composite Average Remaining Life ... 56.68 Years

FE 2023 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1892	13,199.66	0.00	0.00	0.00	0.00
1902	5,876.85	0.00	0.00	0.00	0.00
1905	231.68	0.00	0.00	0.00	0.00
1910	39.90	0.00	0.00	0.00	0.00
1916	60,448.97	0.00	0.00	0.00	0.00
1924	43.93	70.00	0.63	1.52	0.96
1927	8,724.08	70.00	124.63	2.20	274.25
1928	177.84	70.00	2.54	2.42	6.14
1929	1,767.51	70.00	25.25	2.66	67.26
1930	14,505.87	70.00	207.23	2.92	605.17
1934	1,584.41	70.00	22.63	3.91	88.51
1937	73.90	70.00	1.06	4.71	4.97
1939	22.85	70.00	0.33	5.24	1.71
1940	2,686.64	70.00	38.38	5.51	211.46
1947	1,236.71	70.00	17.67	7.65	135.16
1948	143.92	70.00	2.06	8.00	16.45
1949	25,332.31	70.00	361.89	8.37	3,027.99
1950	5,551.99	70.00	79.31	8.75	694.03
1951	2,081.51	70.00	29.74	9.15	272.12
1952	33,072.03	70.00	472.46	9.57	4,523.47
1953	10,213.52	70.00	145.91	10.02	1,461.34
1954	6,627.96	70.00	94.68	10.48	992.59
1955	1,809.72	70.00	25.85	10.97	283.59
1956	4,607.45	70.00	65.82	11.48	755.84
1957	6,127.12	70.00	87.53	12.02	1,051.84
1958	14,126.41	70.00	201.80	12.57	2,536.94
1959	2,837.39	70.00	40.53	13.16	533.30

FE 2023 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1961	7.14	70.00	0.10	14.38	1.47
1962	4,535.32	70.00	64.79	15.02	972.86
1963	4,319.60	70.00	61.71	15.67	967.00
1964	5,403.39	70.00	77.19	16.33	1,260.91
1965	78.02	70.00	1.11	17.01	18.96
1966	8,856.75	70.00	126.52	17.70	2,239.28
1967	6,231.00	70.00	89.01	18.39	1,637.18
1968	4,648.62	70.00	66.41	19.10	1,268.43
1969	356.16	70.00	5.09	19.81	100.82
1970	311.02	70.00	4.44	20.54	91.27
1971	9,172.95	70.00	131.04	21.28	2,788.33
1972	5,037.91	70.00	71.97	22.02	1,585.01
1973	3,867.63	70.00	55.25	22.78	1,258.88
1974	13,131.54	70.00	187.59	23.55	4,418.11
1975	29,166.31	70.00	416.66	24.33	10,138.92
1976	39,705.43	70.00	567.22	25.12	14,250.25
1977	3,830.92	70.00	54.73	25.93	1,418.85
1978	17,998.16	70.00	257.12	26.74	6,874.48
1979	52,736.79	70.00	753.38	27.56	20,760.94
1982	28,737.55	70.00	410.53	30.09	12,351.81
1984	20,936.53	70.00	299.09	31.82	9,516.98
1985	6,426.42	70.00	91.81	32.70	3,001.90
1986	18,049.02	70.00	257.84	33.58	8,659.60
1988	8,340.21	70.00	119.15	35.39	4,216.07
1989	25,492.68	70.00	364.18	36.30	13,219.26
1990	51,854.52	70.00	740.78	37.22	27,569.05
1991	16,292.51	70.00	232.75	38.14	8,877.63

FE 2023 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1992	10,310.34	70.00	147.29	39.07	5,755.14
1993	43,358.46	70.00	619.40	40.01	24,782.33
1994	2,144.77	70.00	30.64	40.95	1,254.82
2013	104,744.96	70.00	1,496.35	59.53	89,070.25
2014	20,952.31	70.00	299.32	60.52	18,114.76
Total	790,187.07	64.07	10,148.38	31.14	315,986.62

Composite Average Remaining Life ... 31.14 Years

FE 2023 Study - Pennsylvania Power
Electric Division
361.20 Strucutres - Clearing and Grading
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1982	10,423.29	70.00	148.90	30.09	4,480.08
1984	22,196.95	70.00	317.10	31.82	10,089.92
1985	4,714.89	70.00	67.36	32.70	2,202.41
1986	27,260.71	70.00	389.44	33.58	13,079.20
1988	9,123.84	70.00	130.34	35.39	4,612.20
1989	32,176.26	70.00	459.66	36.30	16,685.04
1990	52,686.14	70.00	752.66	37.22	28,011.19
1991	55,883.01	70.00	798.32	38.14	30,450.12
1992	17,590.91	70.00	251.30	39.07	9,819.09
1993	43,941.89	70.00	627.74	40.01	25,115.80
1994	22,576.32	70.00	322.52	40.95	13,208.49
2005	137,521.89	70.00	1,964.59	51.60	101,376.10
2007	12,535.66	70.00	179.08	53.57	9,593.95
2022	5,665.87	70.00	80.94	68.50	5,544.57
Total	454,297.63	70.00	6,489.93	42.26	274,268.17

Composite Average Remaining Life ... *42.26 Years*

FE 2023 Study - Pennsylvania Power
Electric Division
361.21 Structures - Clearing and Grading - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1982	13,229.30	70.00	188.99	30.09	5,686.14
1984	39,203.31	70.00	560.04	31.82	17,820.39
1985	3,143.26	70.00	44.90	32.70	1,468.28
1986	26,663.57	70.00	380.91	33.58	12,792.71
1988	6,076.93	70.00	86.81	35.39	3,071.96
1989	21,430.98	70.00	306.16	36.30	11,113.06
1990	23,239.46	70.00	331.99	37.22	12,355.53
1991	48,827.78	70.00	697.54	38.14	26,605.79
1992	12,619.20	70.00	180.27	39.07	7,043.93
1993	782.14	70.00	11.17	40.01	447.05
Total	195,215.93	70.00	2,788.79	35.29	98,404.82

Composite Average Remaining Life ... 35.29 Years

FE 2023 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1916	1,654.35	0.00	0.00	0.00	0.00
1923	600.88	52.00	11.56	1.36	15.70
1924	210.00	52.00	4.04	1.69	6.81
1926	566.38	52.00	10.89	2.36	25.68
1927	4,454.57	52.00	85.66	2.70	231.15
1928	232.29	52.00	4.47	3.01	13.46
1929	32,404.48	52.00	623.15	3.32	2,068.78
1930	38,588.00	52.00	742.06	3.62	2,686.09
1931	38.37	52.00	0.74	3.92	2.89
1933	58.02	52.00	1.12	4.51	5.03
1936	504.68	52.00	9.71	5.40	52.41
1937	15.10	52.00	0.29	5.70	1.66
1938	112.50	52.00	2.16	6.01	13.01
1939	1,115.35	52.00	21.45	6.33	135.74
1940	7,341.25	52.00	141.17	6.64	937.72
1941	788.51	52.00	15.16	6.96	105.55
1942	418.61	52.00	8.05	7.28	58.63
1943	162.13	52.00	3.12	7.61	23.73
1944	4,784.97	52.00	92.02	7.94	730.88
1945	954.48	52.00	18.35	8.28	151.97
1946	2,353.97	52.00	45.27	8.62	390.25
1948	36,876.03	52.00	709.14	9.32	6,607.71
1949	32,471.55	52.00	624.44	9.67	6,040.60
1950	45,183.86	52.00	868.90	10.03	8,718.74
1951	11,913.77	52.00	229.11	10.40	2,382.64
1952	73,868.21	52.00	1,420.51	10.77	15,299.21
1953	176,787.70	52.00	3,399.69	11.15	37,895.38

FE 2023 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1954	83,153.45	52.00	1,599.07	11.53	18,432.53
1955	20,742.19	52.00	398.88	11.91	4,751.70
1956	44,373.13	52.00	853.31	12.30	10,498.75
1957	84,731.81	52.00	1,629.42	12.70	20,693.45
1958	103,403.45	52.00	1,988.48	13.10	26,052.45
1959	22,948.83	52.00	441.31	13.51	5,961.71
1960	17,139.96	52.00	329.61	13.92	4,588.77
1961	27,510.78	52.00	529.04	14.34	7,586.76
1962	52,364.64	52.00	1,006.99	14.76	14,868.16
1963	23,687.78	52.00	455.52	15.20	6,921.77
1964	18,426.15	52.00	354.34	15.63	5,538.81
1965	75,506.59	52.00	1,452.02	16.07	23,338.46
1966	142,234.09	52.00	2,735.21	16.52	45,189.20
1967	314,447.96	52.00	6,046.94	16.98	102,650.52
1968	240,120.01	52.00	4,617.59	17.44	80,513.03
1969	97,153.92	52.00	1,868.30	17.90	33,448.24
1970	105,804.44	52.00	2,034.65	18.38	37,389.26
1971	150,713.79	52.00	2,898.28	18.86	54,649.44
1972	156,140.02	52.00	3,002.62	19.34	58,076.57
1973	207,829.36	52.00	3,996.63	19.83	79,271.34
1974	437,819.66	52.00	8,419.42	20.33	171,198.38
1975	137,376.25	52.00	2,641.79	20.84	55,053.78
1976	130,857.46	52.00	2,516.43	21.35	53,730.93
1977	295,377.73	52.00	5,680.21	21.87	124,232.84
1978	427,253.24	52.00	8,216.22	22.40	184,018.74
1979	698,768.60	52.00	13,437.55	22.93	308,104.85
1980	360,628.30	52.00	6,935.00	23.47	162,751.27

FE 2023 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981	64,066.74	52.00	1,232.02	24.01	29,586.17
1982	182,365.45	52.00	3,506.95	24.57	86,155.68
1983	14,776.60	52.00	284.16	25.13	7,139.97
1984	525,205.78	52.00	10,099.88	25.69	259,494.72
1985	186,966.56	52.00	3,595.43	26.27	94,436.13
1986	539,941.06	52.00	10,383.25	26.84	278,737.06
1987	261,748.45	52.00	5,033.51	27.43	138,072.24
1988	218,238.05	52.00	4,196.79	28.02	117,605.34
1989	748,937.29	52.00	14,402.31	28.62	412,209.08
1990	896,044.15	52.00	17,231.23	29.23	503,591.51
1991	1,888,123.99	52.00	36,309.26	29.83	1,083,280.52
1992	1,660,901.68	52.00	31,939.69	30.45	972,609.84
1993	1,253,741.38	52.00	24,109.87	31.07	749,184.03
1994	1,624,854.59	52.00	31,246.50	31.70	990,564.19
1995	535,793.22	52.00	10,303.48	32.33	333,161.28
1996	564,801.51	52.00	10,861.32	32.97	358,132.59
1997	361,460.68	52.00	6,951.01	33.62	233,668.98
1998	340,896.85	52.00	6,555.56	34.26	224,623.98
1999	646,057.71	52.00	12,423.91	34.92	433,809.10
2000	312,217.00	52.00	6,004.04	35.57	213,589.11
2001	1,184,636.34	52.00	22,780.95	36.24	825,474.56
2002	748,366.97	52.00	14,391.35	36.90	531,043.82
2003	312,539.17	52.00	6,010.23	37.57	225,797.17
2004	706,373.15	52.00	13,583.79	38.24	519,455.34
2005	4,691,981.49	52.00	90,228.37	38.92	3,511,275.11
2006	767,565.25	52.00	14,760.54	39.59	584,428.17
2007	3,165,904.50	52.00	60,881.40	40.28	2,452,026.05

FE 2023 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	4,446,657.86	52.00	85,510.72	40.96	3,502,502.40
2009	2,794,426.62	52.00	53,737.76	41.65	2,238,015.40
2010	508,083.34	52.00	9,770.61	42.34	413,658.94
2011	511,164.52	52.00	9,829.86	43.03	422,980.57
2012	809,214.28	52.00	15,561.46	43.73	680,446.96
2013	1,358,671.93	52.00	26,127.72	44.43	1,160,749.29
2014	1,183,352.44	52.00	22,756.26	45.13	1,026,966.75
2015	7,124,407.84	52.00	137,004.74	45.84	6,279,683.34
2016	7,873,780.30	52.00	151,415.43	46.55	7,047,743.22
2017	6,233,483.25	52.00	119,871.97	47.26	5,665,015.28
2018	7,788,709.19	52.00	149,779.48	47.98	7,185,963.84
2019	7,398,744.70	52.00	142,280.33	48.70	6,928,917.77
2020	4,362,143.20	52.00	83,885.47	49.43	4,146,063.44
2021	9,575,904.89	52.00	184,147.85	50.16	9,236,076.23
2022	4,740,149.96	52.00	91,154.67	50.89	4,638,914.27
2023	9,496,970.71	52.00	182,629.92	51.63	9,429,154.81
Total	105,561,344.24	51.47	2,029,948.11	43.33	87,956,117.36

Composite Average Remaining Life ... *43.33 Years*

FE 2023 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1909	41.23	0.00	0.00	0.00	0.00
1916	862.00	0.00	0.00	0.00	0.00
1927	1,733.65	52.00	33.34	2.70	89.96
1928	216.04	52.00	4.15	3.01	12.52
1929	38,721.55	52.00	744.63	3.32	2,472.07
1930	35,159.80	52.00	676.13	3.62	2,447.45
1931	449.00	52.00	8.63	3.92	33.81
1932	119.88	52.00	2.31	4.21	9.71
1937	242.76	52.00	4.67	5.70	26.63
1939	9,738.58	52.00	187.28	6.33	1,185.18
1940	463.62	52.00	8.92	6.64	59.22
1941	155.42	52.00	2.99	6.96	20.80
1942	180.32	52.00	3.47	7.28	25.26
1943	33.60	52.00	0.65	7.61	4.92
1944	1,085.36	52.00	20.87	7.94	165.78
1945	227.88	52.00	4.38	8.28	36.28
1946	1,238.53	52.00	23.82	8.62	205.33
1948	474.69	52.00	9.13	9.32	85.06
1949	40,603.31	52.00	780.82	9.67	7,553.33
1950	28,264.25	52.00	543.53	10.03	5,453.91
1951	33,747.50	52.00	648.98	10.40	6,749.17
1952	25,688.62	52.00	494.00	10.77	5,320.50
1953	43,242.93	52.00	831.58	11.15	9,269.35
1954	35,514.59	52.00	682.96	11.53	7,872.48
1955	12,366.39	52.00	237.81	11.91	2,832.94
1956	23,703.05	52.00	455.82	12.30	5,608.18
1957	32,717.25	52.00	629.16	12.70	7,990.30

FE 2023 Study - Pennsylvania Power
Electric Division
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And Development Of Composite Remaining Life as of December 31, 2023
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Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	94,368.17	52.00	1,814.73	13.10	23,776.02
1959	24,434.05	52.00	469.87	13.51	6,347.54
1960	5,859.49	52.00	112.68	13.92	1,568.72
1961	6,070.94	52.00	116.75	14.34	1,674.21
1962	23,625.78	52.00	454.33	14.76	6,708.19
1963	27,556.99	52.00	529.93	15.20	8,052.38
1964	8,363.66	52.00	160.84	15.63	2,514.08
1965	43,958.19	52.00	845.33	16.07	13,587.11
1966	59,094.35	52.00	1,136.40	16.52	18,774.87
1967	41,025.82	52.00	788.94	16.98	13,392.75
1968	47,892.35	52.00	920.99	17.44	16,058.46
1969	12,264.53	52.00	235.85	17.90	4,222.44
1970	29,195.12	52.00	561.43	18.38	10,316.99
1971	128,498.28	52.00	2,471.06	18.86	46,594.00
1972	38,864.02	52.00	747.37	19.34	14,455.54
1973	63,794.82	52.00	1,226.80	19.83	24,332.95
1974	68,285.72	52.00	1,313.16	20.33	26,701.42
1975	222,163.45	52.00	4,272.28	20.84	89,032.40
1976	140,974.87	52.00	2,710.99	21.35	57,885.20
1977	83,335.49	52.00	1,602.57	21.87	35,050.05
1978	372,301.00	52.00	7,159.47	22.40	160,350.71
1979	277,458.44	52.00	5,335.62	22.93	122,338.49
1980	38,850.86	52.00	747.12	23.47	17,533.36
1981	30,089.76	52.00	578.64	24.01	13,895.52
1982	133,780.90	52.00	2,572.65	24.57	63,202.68
1983	80,344.28	52.00	1,545.05	25.13	38,821.90
1984	277,584.98	52.00	5,338.05	25.69	137,149.74

FE 2023 Study - Pennsylvania Power
Electric Division
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Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	153,964.54	52.00	2,960.79	26.27	77,766.93
1986	204,712.02	52.00	3,936.68	26.84	105,679.73
1987	867.95	52.00	16.69	27.43	457.84
1988	75,164.52	52.00	1,445.44	28.02	40,505.08
1989	174,356.24	52.00	3,352.93	28.62	95,964.28
1990	276,769.11	52.00	5,322.36	29.23	155,548.78
1991	539,140.12	52.00	10,367.84	29.83	309,322.90
1992	249,365.88	52.00	4,795.39	30.45	146,026.53
1993	313,176.03	52.00	6,022.48	31.07	187,141.05
1994	158,743.51	52.00	3,052.69	31.70	96,775.21
1995	151,659.94	52.00	2,916.47	32.33	94,303.58
1996	31,707.70	52.00	609.75	32.97	20,105.40
1997	973.99	52.00	18.73	33.62	629.64
1999	42,368.02	52.00	814.75	34.92	28,448.90
2000	107,278.87	52.00	2,063.01	35.57	73,389.98
2001	17,252.80	52.00	331.78	36.24	12,022.04
2002	84,278.95	52.00	1,620.71	36.90	59,804.64
2003	412,722.61	52.00	7,936.79	37.57	298,175.74
2006	125,755.96	52.00	2,418.33	39.59	95,751.24
2008	96,983.54	52.00	1,865.03	40.96	76,391.10
2011	38,981.24	52.00	749.62	43.03	32,256.36
2012	137,041.89	52.00	2,635.36	43.73	115,234.91
2013	40,864.62	52.00	785.84	44.43	34,911.72
2014	10,184.83	52.00	195.86	45.13	8,838.86
2015	658,479.77	52.00	12,662.79	45.84	580,405.35
2016	213,232.76	52.00	4,100.54	46.55	190,862.54
2017	544,014.63	52.00	10,461.58	47.26	494,402.74

FE 2023 Study - Pennsylvania Power
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362.10 Station Equipment - Subtrans
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And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2018	857,646.90	52.00	16,492.84	47.98	791,276.12
2019	5,313.30	52.00	102.18	48.70	4,975.90
2020	11,801.92	52.00	226.95	49.43	11,217.31
2023	55,160.17	52.00	1,060.75	51.63	54,766.28
Total	8,536,992.44	50.78	164,151.85	32.49	5,333,226.56

Composite Average Remaining Life ... 32.49 Years

FE 2023 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1927	106.42	65.00	1.64	9.51	15.57
1928	760.91	65.00	11.71	9.80	114.69
1929	22.57	65.00	0.35	10.08	3.50
1930	6.05	65.00	0.09	10.38	0.97
1931	2.56	65.00	0.04	10.67	0.42
1932	109.66	65.00	1.69	10.98	18.52
1933	78.93	65.00	1.21	11.28	13.69
1934	150.89	65.00	2.32	11.59	26.89
1935	110.28	65.00	1.70	11.89	20.18
1936	611.76	65.00	9.41	12.21	114.93
1937	56,036.55	65.00	862.09	12.53	10,800.48
1938	1,540.13	65.00	23.69	12.85	304.57
1939	3,807.62	65.00	58.58	13.18	772.11
1940	1,786.88	65.00	27.49	13.51	371.51
1941	2,051.17	65.00	31.56	13.85	437.19
1942	1,711.86	65.00	26.34	14.20	373.94
1943	1,082.60	65.00	16.66	14.55	242.34
1944	1,239.48	65.00	19.07	14.91	284.26
1945	1,585.52	65.00	24.39	15.27	372.51
1946	2,603.48	65.00	40.05	15.64	626.48
1947	7,011.46	65.00	107.87	16.02	1,727.91
1948	14,405.30	65.00	221.62	16.40	3,635.15
1949	26,318.54	65.00	404.90	16.79	6,799.96
1950	23,872.63	65.00	367.27	17.19	6,314.44
1951	43,654.38	65.00	671.60	17.60	11,819.57
1952	36,949.99	65.00	568.46	18.01	10,239.74
1953	71,898.68	65.00	1,106.12	18.44	20,391.46

FE 2023 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1954	75,439.41	65.00	1,160.59	18.86	21,893.86
1955	68,007.31	65.00	1,046.26	19.30	20,194.88
1956	106,387.13	65.00	1,636.71	19.75	32,320.10
1957	37,632.40	65.00	578.95	20.20	11,695.37
1958	110,733.57	65.00	1,703.58	20.66	35,198.77
1959	175,337.01	65.00	2,697.46	21.13	57,002.43
1960	184,949.93	65.00	2,845.35	21.61	61,484.24
1961	193,414.31	65.00	2,975.57	22.10	65,745.83
1962	219,926.14	65.00	3,383.44	22.59	76,424.90
1963	215,877.70	65.00	3,321.16	23.09	76,688.21
1964	268,917.35	65.00	4,137.15	23.60	97,634.05
1965	301,304.57	65.00	4,635.41	24.12	111,798.91
1966	403,364.72	65.00	6,205.55	24.64	152,934.17
1967	385,535.31	65.00	5,931.25	25.18	149,335.97
1968	379,780.47	65.00	5,842.72	25.72	150,274.57
1969	429,446.87	65.00	6,606.81	26.27	173,550.64
1970	406,252.13	65.00	6,249.97	26.83	167,663.12
1971	514,468.88	65.00	7,914.82	27.39	216,785.66
1972	523,038.05	65.00	8,046.66	27.96	225,007.86
1973	474,003.91	65.00	7,292.29	28.54	208,131.30
1974	638,736.24	65.00	9,826.61	29.13	286,242.27
1975	668,524.23	65.00	10,284.88	29.72	305,688.26
1976	554,968.38	65.00	8,537.89	30.32	258,908.68
1977	500,478.31	65.00	7,699.59	30.93	238,159.87
1978	764,039.19	65.00	11,754.33	31.55	370,828.21
1979	866,957.26	65.00	13,337.67	32.17	429,084.16
1980	1,173,862.43	65.00	18,059.23	32.80	592,325.42

FE 2023 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981	1,433,345.53	65.00	22,051.24	33.44	737,285.94
1982	1,236,028.22	65.00	19,015.62	34.08	647,980.87
1983	1,799,292.87	65.00	27,681.14	34.73	961,236.70
1984	1,351,223.51	65.00	20,787.84	35.38	735,451.44
1985	1,922,112.73	65.00	29,570.66	36.04	1,065,741.72
1986	1,690,372.14	65.00	26,005.45	36.71	954,559.19
1987	1,901,530.92	65.00	29,254.02	37.38	1,093,506.48
1988	2,195,291.27	65.00	33,773.36	38.06	1,285,306.10
1989	1,916,195.01	65.00	29,479.62	38.74	1,142,095.52
1990	2,171,715.50	65.00	33,410.66	39.43	1,317,381.77
1991	2,364,945.55	65.00	36,383.40	40.13	1,459,920.21
1992	2,463,245.24	65.00	37,895.69	40.83	1,547,145.73
1993	2,998,080.19	65.00	46,123.83	41.53	1,915,568.01
1994	3,082,927.17	65.00	47,429.15	42.24	2,003,482.98
1995	2,280,142.78	65.00	35,078.75	42.96	1,506,837.04
1996	2,592,119.56	65.00	39,878.35	43.68	1,741,729.65
1997	2,032,030.80	65.00	31,261.69	44.40	1,388,003.02
1998	2,843,036.87	65.00	43,738.57	45.13	1,973,871.68
1999	2,081,072.46	65.00	32,016.17	45.86	1,468,292.29
2000	2,079,909.20	65.00	31,998.27	46.60	1,491,085.44
2001	1,882,395.80	65.00	28,959.63	47.34	1,370,928.41
2002	2,122,572.89	65.00	32,654.63	48.09	1,570,211.72
2003	2,915,882.92	65.00	44,859.27	48.83	2,190,639.85
2004	1,982,266.62	65.00	30,496.09	49.59	1,512,226.20
2005	2,959,277.14	65.00	45,526.87	50.34	2,292,032.72
2006	2,570,055.19	65.00	39,538.90	51.10	2,020,621.55
2007	2,195,637.55	65.00	33,778.69	51.87	1,752,074.03

FE 2023 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	3,311,737.37	65.00	50,949.28	52.64	2,681,792.28
2009	3,205,099.35	65.00	49,308.71	53.41	2,633,504.94
2010	3,802,745.96	65.00	58,503.17	54.18	3,169,880.27
2011	3,752,266.87	65.00	57,726.58	54.96	3,172,793.45
2012	3,170,224.76	65.00	48,772.18	55.74	2,718,764.26
2013	2,967,163.69	65.00	45,648.20	56.53	2,580,532.77
2014	3,977,276.81	65.00	61,188.24	57.32	3,507,295.45
2015	3,945,737.03	65.00	60,703.01	58.11	3,527,681.73
2016	5,487,560.72	65.00	84,423.13	58.91	4,973,348.02
2017	5,184,125.41	65.00	79,754.94	59.71	4,762,251.63
2018	6,410,314.84	65.00	98,619.20	60.52	5,967,978.56
2019	6,857,593.36	65.00	105,500.34	61.32	6,469,554.29
2020	7,003,927.89	65.00	107,751.61	62.13	6,695,050.35
2021	5,863,495.84	65.00	90,206.69	62.95	5,678,360.13
2022	5,872,330.12	65.00	90,342.60	63.77	5,760,875.73
2023	6,208,623.42	65.00	95,516.29	64.59	6,169,223.09
Total	147,023,828.58	65.00	2,261,881.50	50.53	114,282,947.91

Composite Average Remaining Life ... 50.53 Years

FE 2023 Study - Pennsylvania Power
Electric Division
364.10 Towers and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1947	7,576.09	75.00	101.01	10.30	1,040.81
Total	7,576.09	75.00	101.01	10.30	1,040.81

Composite Average Remaining Life ... 10.30 Years

FE 2023 Study - Pennsylvania Power
Electric Division
364.20 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1927	217.64	65.00	3.35	9.51	31.84
1928	315.45	65.00	4.85	9.80	47.55
1929	104.15	65.00	1.60	10.08	16.16
1930	1,364.62	65.00	20.99	10.38	217.92
1932	234.35	65.00	3.61	10.98	39.57
1935	143.50	65.00	2.21	11.89	26.26
1936	243.52	65.00	3.75	12.21	45.75
1937	795.15	65.00	12.23	12.53	153.26
1938	336.03	65.00	5.17	12.85	66.45
1939	1,746.48	65.00	26.87	13.18	354.15
1941	1,817.73	65.00	27.96	13.85	387.43
1942	1,676.09	65.00	25.79	14.20	366.13
1943	1,511.95	65.00	23.26	14.55	338.45
1944	366.30	65.00	5.64	14.91	84.01
1945	290.16	65.00	4.46	15.27	68.17
1947	5,721.85	65.00	88.03	16.02	1,410.10
1948	1,473.13	65.00	22.66	16.40	371.74
1949	10,681.09	65.00	164.32	16.79	2,759.69
1950	992.99	65.00	15.28	17.19	262.65
1951	6,473.88	65.00	99.60	17.60	1,752.82
1952	10,032.82	65.00	154.35	18.01	2,780.34
1953	5,707.58	65.00	87.81	18.44	1,618.75
1954	9,534.82	65.00	146.69	18.86	2,767.17
1955	11,862.80	65.00	182.50	19.30	3,522.68
1956	3,042.50	65.00	46.81	19.75	924.30
1957	3,362.19	65.00	51.73	20.20	1,044.90
1958	4,783.87	65.00	73.60	20.66	1,520.64

FE 2023 Study - Pennsylvania Power
Electric Division
364.20 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1959	11,747.08	65.00	180.72	21.13	3,819.00
1960	7,794.62	65.00	119.92	21.61	2,591.22
1961	3,156.07	65.00	48.55	22.10	1,072.82
1962	6,157.60	65.00	94.73	22.59	2,139.78
1963	2,324.00	65.00	35.75	23.09	825.58
1964	8,096.01	65.00	124.55	23.60	2,939.37
1965	9,642.75	65.00	148.35	24.12	3,577.94
1966	10,407.61	65.00	160.12	24.64	3,946.01
1967	47,335.10	65.00	728.22	25.18	18,335.11
1968	19,025.91	65.00	292.70	25.72	7,528.32
1969	12,380.02	65.00	190.46	26.27	5,003.09
1970	24,121.45	65.00	371.10	26.83	9,955.09
1971	11,840.58	65.00	182.16	27.39	4,989.36
1972	30,206.23	65.00	464.71	27.96	12,994.54
1973	48,338.69	65.00	743.66	28.54	21,225.13
1974	4,941.24	65.00	76.02	29.13	2,214.36
1975	4,738.99	65.00	72.91	29.72	2,166.94
1976	3,478.97	65.00	53.52	30.32	1,623.04
1977	3,833.89	65.00	58.98	30.93	1,824.41
1978	4,184.19	65.00	64.37	31.55	2,030.81
1979	17,507.36	65.00	269.34	32.17	8,664.94
1980	3,713.70	65.00	57.13	32.80	1,873.92
1981	3,768.56	65.00	57.98	33.44	1,938.48
1982	33,377.74	65.00	513.50	34.08	17,498.09
1983	18,603.43	65.00	286.20	34.73	9,938.52
1984	14,759.23	65.00	227.06	35.38	8,033.24
1985	21,877.02	65.00	336.57	36.04	12,130.01

FE 2023 Study - Pennsylvania Power
Electric Division
364.20 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1986	177,220.84	65.00	2,726.45	36.71	100,077.24
1987	34,688.28	65.00	533.66	37.38	19,948.06
1988	5,930.24	65.00	91.23	38.06	3,472.06
1989	6,611.18	65.00	101.71	38.74	3,940.41
1990	29,793.98	65.00	458.36	39.43	18,073.29
1991	22,023.41	65.00	338.82	40.13	13,595.42
1992	54,396.65	65.00	836.86	40.83	34,166.12
1993	47,327.44	65.00	728.11	41.53	30,238.99
1994	21,329.22	65.00	328.14	42.24	13,861.09
1995	51,318.70	65.00	789.51	42.96	33,914.07
1996	44,796.40	65.00	689.17	43.68	30,100.16
1998	7,944.05	65.00	122.21	45.13	5,515.42
1999	18,633.00	65.00	286.66	45.86	13,146.44
2000	8,099.94	65.00	124.61	46.60	5,806.84
2003	174,529.01	65.00	2,685.03	48.83	131,119.88
2004	606,425.47	65.00	9,329.53	49.59	462,628.22
2005	5,474.99	65.00	84.23	50.34	4,240.51
2006	11,913.76	65.00	183.29	51.10	9,366.80
2007	23,366.45	65.00	359.48	51.87	18,645.95
2008	146,150.19	65.00	2,248.44	52.64	118,350.10
2009	69,860.50	65.00	1,074.77	53.41	57,401.64
2010	25,130.61	65.00	386.62	54.18	20,948.29
2011	347,905.65	65.00	5,352.34	54.96	294,177.58
2012	79,734.87	65.00	1,226.68	55.74	68,380.11
2013	52,098.43	65.00	801.51	56.53	45,309.84
2015	149,291.81	65.00	2,296.77	58.11	133,474.17
2016	17,965.41	65.00	276.39	58.91	16,281.96

FE 2023 Study - Pennsylvania Power
Electric Division
364.20 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2017	257,971.69	65.00	3,968.75	59.71	236,978.47
2018	116,786.51	65.00	1,796.70	60.52	108,727.79
2021	5,505.64	65.00	84.70	62.95	5,331.80
2022	1,909.95	65.00	29.38	63.77	1,873.70
2023	47,959.88	65.00	737.84	64.59	47,655.52
Total	3,142,284.83	65.00	48,342.34	47.59	2,300,605.94

Composite Average Remaining Life ... 47.59 Years

FE 2023 Study - Pennsylvania Power
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	1,604.78	65.00	24.69	10.56	260.69
1927	1,321.04	65.00	20.32	10.90	221.56
1928	5,835.53	65.00	89.78	11.25	1,009.99
1929	5,794.42	65.00	89.14	11.60	1,034.09
1930	12,250.43	65.00	188.46	11.96	2,253.34
1931	7,244.58	65.00	111.45	12.31	1,372.44
1932	2,877.15	65.00	44.26	12.68	561.15
1933	2,568.72	65.00	39.52	13.04	515.45
1934	3,941.91	65.00	60.64	13.41	813.52
1935	5,743.49	65.00	88.36	13.79	1,218.35
1936	8,333.96	65.00	128.21	14.17	1,816.52
1937	23,518.73	65.00	361.82	14.55	5,264.45
1938	23,507.89	65.00	361.65	14.94	5,402.24
1939	16,302.66	65.00	250.81	15.33	3,844.35
1940	22,717.48	65.00	349.49	15.72	5,495.17
1941	26,163.46	65.00	402.51	16.12	6,489.72
1942	6,674.38	65.00	102.68	16.53	1,697.02
1943	4,876.02	65.00	75.01	16.94	1,270.43
1944	7,176.91	65.00	110.41	17.35	1,915.51
1945	21,293.82	65.00	327.59	17.77	5,820.12
1946	32,957.82	65.00	507.03	18.19	9,222.16
1947	70,298.93	65.00	1,081.50	18.62	20,132.36
1948	96,395.91	65.00	1,482.99	19.05	28,245.90
1949	105,480.90	65.00	1,622.75	19.48	31,615.51
1950	146,949.00	65.00	2,260.71	19.92	45,041.79
1951	148,757.09	65.00	2,288.53	20.37	46,615.47
1952	146,452.90	65.00	2,253.08	20.82	46,909.38

FE 2023 Study - Pennsylvania Power
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1953	174,899.93	65.00	2,690.72	21.28	57,247.28
1954	194,258.47	65.00	2,988.54	21.74	64,959.36
1955	158,033.04	65.00	2,431.23	22.20	53,978.16
1956	163,814.94	65.00	2,520.18	22.67	57,138.32
1957	262,793.20	65.00	4,042.90	23.15	93,586.43
1958	229,900.13	65.00	3,536.86	23.63	83,571.74
1959	271,096.50	65.00	4,170.64	24.12	100,576.21
1960	250,698.13	65.00	3,856.82	24.61	94,901.03
1961	268,468.78	65.00	4,130.21	25.10	103,681.18
1962	426,456.34	65.00	6,560.74	25.60	167,982.62
1963	284,514.48	65.00	4,377.06	26.11	114,294.03
1964	290,128.86	65.00	4,463.44	26.62	118,832.75
1965	318,431.32	65.00	4,898.85	27.14	132,965.79
1966	394,443.55	65.00	6,068.25	27.67	167,882.57
1967	330,449.30	65.00	5,083.74	28.19	143,330.15
1968	371,145.54	65.00	5,709.82	28.73	164,033.04
1969	365,536.80	65.00	5,623.54	29.27	164,583.74
1970	304,214.90	65.00	4,680.14	29.81	139,525.32
1971	433,942.43	65.00	6,675.91	30.36	202,691.02
1972	370,900.01	65.00	5,706.05	30.92	176,417.63
1973	438,224.08	65.00	6,741.78	31.48	212,214.94
1974	343,214.89	65.00	5,280.13	32.04	169,198.92
1975	286,473.86	65.00	4,407.21	32.61	143,740.36
1976	239,059.47	65.00	3,677.77	33.19	122,073.92
1977	242,319.49	65.00	3,727.92	33.77	125,903.37
1978	460,184.90	65.00	7,079.64	34.36	243,263.93
1979	349,316.29	65.00	5,374.00	34.95	187,840.02

FE 2023 Study - Pennsylvania Power
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Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1980	574,534.94	65.00	8,838.83	35.55	314,221.34
1981	461,426.82	65.00	7,098.74	36.15	256,638.06
1982	324,059.28	65.00	4,985.43	36.76	183,259.10
1983	487,858.61	65.00	7,505.38	37.37	280,484.94
1984	607,474.16	65.00	9,345.58	37.99	355,009.47
1985	1,072,357.89	65.00	16,497.51	38.61	636,944.94
1986	688,720.65	65.00	10,595.50	39.23	415,695.80
1987	603,724.08	65.00	9,287.89	39.86	370,251.22
1988	1,112,428.62	65.00	17,113.97	40.50	693,065.79
1989	860,971.88	65.00	13,245.47	41.14	544,868.66
1990	1,210,901.76	65.00	18,628.91	41.78	778,269.16
1991	1,709,528.38	65.00	26,299.95	42.42	1,115,763.91
1992	1,605,586.06	65.00	24,700.86	43.07	1,063,983.74
1993	1,705,089.95	65.00	26,231.66	43.73	1,147,053.21
1994	1,617,862.05	65.00	24,889.72	44.39	1,104,733.47
1995	2,751,596.25	65.00	42,331.46	45.04	1,906,814.52
1996	2,588,219.71	65.00	39,818.02	45.71	1,820,029.99
1997	1,828,967.20	65.00	28,137.43	46.37	1,304,860.76
1998	1,509,717.39	65.00	23,225.99	47.04	1,092,651.59
1999	1,611,708.31	65.00	24,795.05	47.72	1,183,115.24
2000	1,338,374.51	65.00	20,589.99	48.39	996,370.82
2001	1,078,910.00	65.00	16,598.31	49.07	814,438.09
2002	1,694,396.80	65.00	26,067.16	49.75	1,296,783.24
2003	2,397,401.62	65.00	36,882.41	50.43	1,859,943.95
2004	3,034,210.85	65.00	46,679.30	51.11	2,385,963.22
2005	4,502,044.52	65.00	69,260.93	51.80	3,587,765.85
2006	3,447,275.99	65.00	53,034.03	52.49	2,783,715.30

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And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	4,144,275.26	65.00	63,756.89	53.18	3,390,639.00
2008	4,245,393.21	65.00	65,312.52	53.87	3,518,646.65
2009	4,037,339.95	65.00	62,111.76	54.57	3,389,476.78
2010	4,277,353.99	65.00	65,804.22	55.27	3,636,930.13
2011	5,478,268.01	65.00	84,279.47	55.97	4,717,206.49
2012	4,811,396.06	65.00	74,020.10	56.67	4,195,071.48
2013	4,546,170.61	65.00	69,939.78	57.38	4,013,325.39
2014	6,190,710.44	65.00	95,239.92	58.09	5,532,686.07
2015	7,220,437.65	65.00	111,081.58	58.81	6,532,262.29
2016	9,101,260.70	65.00	140,016.78	59.52	8,334,013.42
2017	8,593,654.89	65.00	132,207.61	60.24	7,964,427.69
2018	10,201,499.14	65.00	156,943.21	60.96	9,568,026.50
2019	13,998,237.68	65.00	215,353.49	61.69	13,285,293.61
2020	11,715,158.13	65.00	180,229.84	62.42	11,250,040.53
2021	8,729,382.06	65.00	134,295.68	63.15	8,481,177.34
2022	8,493,709.01	65.00	130,670.01	63.89	8,348,502.71
2023	7,384,234.79	65.00	113,601.49	64.63	7,342,004.28
Total	174,773,789.40	65.00	2,688,777.38	54.92	147,674,898.29

Composite Average Remaining Life ... 54.92 Years

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And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1913	29,386.00	65.00	452.08	6.41	2,896.17
1916	13.62	65.00	0.21	7.32	1.53
1923	2,178.06	65.00	33.51	9.55	320.10
1925	6.98	65.00	0.11	10.22	1.10
1927	8,088.50	65.00	124.44	10.90	1,356.58
1928	1,537.08	65.00	23.65	11.25	266.03
1929	3,641.76	65.00	56.03	11.60	649.92
1930	1,910.06	65.00	29.38	11.96	351.34
1934	113.13	65.00	1.74	13.41	23.35
1936	45.31	65.00	0.70	14.17	9.88
1937	1,008.70	65.00	15.52	14.55	225.79
1938	287.78	65.00	4.43	14.94	66.13
1939	2,447.56	65.00	37.65	15.33	577.16
1940	874.77	65.00	13.46	15.72	211.60
1941	1,451.78	65.00	22.33	16.12	360.11
1942	2,313.57	65.00	35.59	16.53	588.25
1943	173.55	65.00	2.67	16.94	45.22
1944	6.83	65.00	0.11	17.35	1.82
1945	180.46	65.00	2.78	17.77	49.32
1946	155.69	65.00	2.40	18.19	43.56
1947	10,507.58	65.00	161.65	18.62	3,009.18
1948	7,002.27	65.00	107.73	19.05	2,051.80
1949	22,220.55	65.00	341.85	19.48	6,660.11
1950	2,866.22	65.00	44.09	19.92	878.53
1951	7,960.80	65.00	122.47	20.37	2,494.65
1952	14,423.94	65.00	221.90	20.82	4,620.04
1953	5,221.82	65.00	80.33	21.28	1,709.18

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Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1954	18,134.94	65.00	278.99	21.74	6,064.26
1955	14,961.51	65.00	230.17	22.20	5,110.29
1956	1,219.79	65.00	18.77	22.67	425.46
1957	5,263.85	65.00	80.98	23.15	1,874.57
1958	2,868.18	65.00	44.13	23.63	1,042.62
1959	7,531.86	65.00	115.87	24.12	2,794.30
1960	679.20	65.00	10.45	24.61	257.11
1961	2,007.61	65.00	30.89	25.10	775.33
1962	6,497.23	65.00	99.96	25.60	2,559.28
1963	1,011.58	65.00	15.56	26.11	406.37
1964	8,286.91	65.00	127.49	26.62	3,394.20
1965	9,238.07	65.00	142.12	27.14	3,857.50
1966	8,492.25	65.00	130.65	27.67	3,614.46
1967	24,528.79	65.00	377.36	28.19	10,639.20
1968	23,710.69	65.00	364.77	28.73	10,479.28
1969	17,838.09	65.00	274.43	29.27	8,031.64
1970	36,907.85	65.00	567.80	29.81	16,927.44
1971	12,447.78	65.00	191.50	30.36	5,814.26
1972	32,350.36	65.00	497.69	30.92	15,387.37
1973	88,068.76	65.00	1,354.88	31.48	42,648.29
1974	4,552.88	65.00	70.04	32.04	2,244.49
1975	1,847.36	65.00	28.42	32.61	926.93
1976	2,678.48	65.00	41.21	33.19	1,367.75
1977	818.55	65.00	12.59	33.77	425.30
1978	304.53	65.00	4.68	34.36	160.98
1979	23,542.48	65.00	362.19	34.95	12,659.64
1980	1,253.57	65.00	19.29	35.55	685.60

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Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981	3,085.21	65.00	47.46	36.15	1,715.94
1982	4,719.35	65.00	72.60	36.76	2,668.84
1983	3,399.92	65.00	52.31	37.37	1,954.72
1984	25,100.87	65.00	386.16	37.99	14,669.01
1985	5,544.47	65.00	85.30	38.61	3,293.23
1986	165,760.26	65.00	2,550.11	39.23	100,049.05
1987	15,518.28	65.00	238.74	39.86	9,517.03
1988	5,249.01	65.00	80.75	40.50	3,270.24
1989	6,336.79	65.00	97.49	41.14	4,010.26
1990	7,227.17	65.00	111.19	41.78	4,645.04
1991	12,484.49	65.00	192.07	42.42	8,148.30
1992	15,690.38	65.00	241.39	43.07	10,397.64
1993	11,266.70	65.00	173.33	43.73	7,579.37
1994	12,798.70	65.00	196.90	44.39	8,739.41
1996	68,704.51	65.00	1,056.97	45.71	48,312.85
1997	1,954.42	65.00	30.07	46.37	1,394.36
1998	8,508.98	65.00	130.90	47.04	6,158.34
1999	81.74	65.00	1.26	47.72	60.00
2000	7,536.16	65.00	115.94	48.39	5,610.40
2001	9,062.63	65.00	139.42	49.07	6,841.12
2002	46,603.02	65.00	716.96	49.75	35,666.98
2003	30,236.03	65.00	465.16	50.43	23,457.61
2004	270,112.12	65.00	4,155.49	51.11	212,403.69
2005	7,335.56	65.00	112.85	51.80	5,845.85
2006	995.53	65.00	15.32	52.49	803.90
2007	35,594.21	65.00	547.59	53.18	29,121.40
2008	118,310.73	65.00	1,820.13	53.87	98,057.74

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Electric Division
365.01 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2009	121,985.20	65.00	1,876.66	54.57	102,410.50
2010	67,909.64	65.00	1,044.74	55.27	57,741.92
2011	218,949.87	65.00	3,368.40	55.97	188,532.53
2012	148,694.61	65.00	2,287.57	56.67	129,647.30
2013	117,096.69	65.00	1,801.45	57.38	103,372.08
2014	19,206.81	65.00	295.48	58.09	17,165.28
2015	245,476.73	65.00	3,776.49	58.81	222,080.50
2016	50,119.72	65.00	771.06	59.52	45,894.57
2017	606,119.32	65.00	9,324.74	60.24	561,739.28
2018	112,186.18	65.00	1,725.91	60.96	105,219.86
2020	10,997.56	65.00	169.19	62.42	10,560.93
2021	37,294.92	65.00	573.76	63.15	36,234.50
2022	3,190.67	65.00	49.09	63.89	3,136.12
2023	191,117.58	65.00	2,940.22	64.63	190,024.58
Total	3,332,630.26	65.00	51,270.28	51.07	2,618,194.63

Composite Average Remaining Life ... 51.07 Years

FE 2023 Study - Pennsylvania Power
Electric Division
365.10 Overhead Conductors - Clearing and Grading
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *64* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	149,196.07	64.00	2,331.14	50.12	116,842.36
2007	1,124,793.26	64.00	17,574.56	52.19	917,153.42
2008	11,514,810.25	64.00	179,915.52	52.88	9,513,911.64
2009	2,680,789.05	64.00	41,886.54	53.57	2,244,065.86
2010	6,827,436.70	64.00	106,676.69	54.27	5,789,737.07
2011	3,990,494.35	64.00	62,350.30	54.97	3,427,639.30
2012	434,935.88	64.00	6,795.75	55.68	378,376.42
2013	11,736,737.00	64.00	183,383.06	56.39	10,340,139.72
2014	5,546,949.12	64.00	86,669.45	57.09	4,948,372.07
2015	3,368,514.59	64.00	52,632.05	57.81	3,042,552.91
2016	1,510,135.68	64.00	23,595.43	58.52	1,380,883.31
2017	14,989,852.30	64.00	234,212.03	59.24	13,875,441.39
2018	4,896,934.38	64.00	76,513.16	59.96	4,588,095.02
2019	3,964,783.38	64.00	61,948.57	60.69	3,759,740.36
2020	2,838,505.98	64.00	44,350.82	61.42	2,724,065.75
2021	2,265,759.04	64.00	35,401.82	62.15	2,200,338.93
2023	654,141.85	64.00	10,220.77	63.63	650,342.69
Total	78,494,768.88	64.00	1,226,457.68	56.99	69,897,698.20

Composite Average Remaining Life ... 56.99 Years

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Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1924	1,036.41	70.00	14.81	7.50	111.06
1927	16,100.83	70.00	230.01	8.20	1,886.04
1930	1,136.36	70.00	16.23	8.92	144.86
1938	109.19	70.00	1.56	11.03	17.20
1940	16,131.24	70.00	230.45	11.62	2,678.08
1942	415.69	70.00	5.94	12.25	72.75
1948	397.01	70.00	5.67	14.39	81.62
1949	438.31	70.00	6.26	14.79	92.60
1955	30.90	70.00	0.44	17.43	7.69
1956	1,238.82	70.00	17.70	17.91	317.04
1957	14,818.81	70.00	211.70	18.41	3,897.33
1958	2,441.38	70.00	34.88	18.92	659.75
1959	829.25	70.00	11.85	19.44	230.29
1960	20.54	70.00	0.29	19.97	5.86
1965	24,621.66	70.00	351.74	22.80	8,021.22
1966	8,399.45	70.00	119.99	23.41	2,808.65
1967	25,117.72	70.00	358.82	24.02	8,617.37
1968	12,362.77	70.00	176.61	24.64	4,351.32
1969	12,224.88	70.00	174.64	25.27	4,412.64
1970	99,149.84	70.00	1,416.42	25.91	36,697.02
1971	70,419.94	70.00	1,006.00	26.56	26,715.99
1972	21,049.70	70.00	300.71	27.21	8,183.29
1973	56,756.89	70.00	810.81	27.88	22,607.93
1974	178,335.06	70.00	2,547.64	28.56	72,754.85
1975	81,914.89	70.00	1,170.21	29.24	34,221.90
1976	27,813.80	70.00	397.34	29.94	11,894.80
1977	6,918.58	70.00	98.84	30.64	3,028.21

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Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1978	34,428.80	70.00	491.84	31.35	15,417.66
1979	39,239.12	70.00	560.56	32.06	17,972.71
1980	18,057.80	70.00	257.97	32.79	8,458.50
1981	27,579.60	70.00	393.99	33.52	13,206.56
1982	30,834.46	70.00	440.49	34.26	15,091.59
1983	22,743.49	70.00	324.91	35.01	11,373.86
1984	17,054.41	70.00	243.63	35.76	8,712.72
1985	21,232.54	70.00	303.32	36.52	11,077.82
1986	52,525.87	70.00	750.37	37.29	27,979.69
1987	22,291.97	70.00	318.46	38.06	12,121.82
1988	48,428.09	70.00	691.83	38.84	26,873.63
1989	47,218.87	70.00	674.55	39.63	26,734.91
1990	58,646.48	70.00	837.81	40.43	33,869.80
1991	57,778.57	70.00	825.41	41.23	34,030.11
1992	82,970.88	70.00	1,185.30	42.03	49,823.40
1993	82,307.06	70.00	1,175.81	42.85	50,379.12
1994	520,363.19	70.00	7,433.75	43.67	324,607.92
1995	615,710.02	70.00	8,795.85	44.49	391,333.38
1996	849,360.85	70.00	12,133.71	45.32	549,931.92
1997	486,835.39	70.00	6,954.78	46.16	321,021.68
1998	502,295.38	70.00	7,175.64	47.00	337,264.33
1999	457,524.73	70.00	6,536.06	47.85	312,740.07
2000	159,814.66	70.00	2,283.06	48.70	111,185.85
2001	147,881.34	70.00	2,112.59	49.56	104,699.62
2002	131,402.13	70.00	1,877.17	50.42	94,651.51
2003	291,188.62	70.00	4,159.83	51.29	213,365.43
2004	192,639.19	70.00	2,751.98	52.16	143,556.11

FE 2023 Study - Pennsylvania Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	178,586.66	70.00	2,551.23	53.04	135,326.01
2006	199,417.07	70.00	2,848.81	53.93	153,624.28
2007	103,104.20	70.00	1,472.92	54.81	80,733.67
2008	177,145.25	70.00	2,530.64	55.71	140,969.49
2009	86,254.29	70.00	1,232.20	56.60	69,743.09
2010	82,987.48	70.00	1,185.53	57.50	68,169.78
2011	196,856.21	70.00	2,812.23	58.41	164,248.46
2012	119,456.57	70.00	1,706.52	59.31	101,220.15
2013	418,887.19	70.00	5,984.09	60.23	360,394.62
2014	189,028.21	70.00	2,700.40	61.14	165,103.31
2015	127,088.96	70.00	1,815.55	62.06	112,673.95
2016	162,576.86	70.00	2,322.52	62.98	146,278.20
2017	83,240.56	70.00	1,189.15	63.91	75,997.29
2018	74,938.54	70.00	1,070.55	64.84	69,411.94
2019	24,731.99	70.00	353.31	65.77	23,237.54
2020	25,439.06	70.00	363.41	66.71	24,241.65
2021	27,487.25	70.00	392.67	67.64	26,561.56
2022	90,841.18	70.00	1,297.73	68.58	89,003.62
2023	16,900.10	70.00	241.43	69.53	16,785.91
Total	8,083,551.06	70.00	115,479.14	48.02	5,545,723.60

Composite Average Remaining Life ... 48.02 Years

FE 2023 Study - Pennsylvania Power
Electric Division
366.10 Underground Conduit - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	64,301.63	70.00	918.59	27.88	25,613.22
2000	352.23	70.00	5.03	48.70	245.05
Total	64,653.86	70.00	923.63	28.00	25,858.27

Composite Average Remaining Life ... 28.00 Years

FE 2023 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	11,143.42	50.00	222.87	9.33	2,079.83
1968	23,684.10	50.00	473.68	9.69	4,589.59
1969	16,782.73	50.00	335.65	10.06	3,377.43
1970	94,123.76	50.00	1,882.47	10.45	19,675.25
1971	123,973.77	50.00	2,479.47	10.86	26,922.94
1972	183,874.22	50.00	3,677.48	11.28	41,489.73
1973	162,893.01	50.00	3,257.85	11.72	38,192.92
1974	142,675.27	50.00	2,853.50	12.18	34,761.56
1975	237,093.92	50.00	4,741.87	12.66	60,024.06
1976	144,553.95	50.00	2,891.07	13.15	38,023.18
1977	80,851.58	50.00	1,617.03	13.66	22,092.97
1978	145,608.43	50.00	2,912.16	14.19	41,324.64
1979	239,988.09	50.00	4,799.75	14.73	70,722.24
1980	284,769.72	50.00	5,695.38	15.29	87,110.33
1981	372,538.03	50.00	7,450.74	15.87	118,250.37
1982	220,416.74	50.00	4,408.32	16.46	72,570.86
1983	289,600.58	50.00	5,792.00	17.07	98,859.36
1984	409,036.80	50.00	8,180.72	17.69	144,705.19
1985	359,873.07	50.00	7,197.44	18.32	131,876.26
1986	677,558.71	50.00	13,551.14	18.97	257,065.66
1987	646,541.36	50.00	12,930.80	19.63	253,834.97
1988	1,165,800.04	50.00	23,315.94	20.30	473,381.58
1989	800,421.66	50.00	16,008.39	20.99	335,977.09
1990	1,137,480.98	50.00	22,749.56	21.68	493,297.44
1991	1,154,099.28	50.00	23,081.93	22.39	516,835.51
1992	1,505,533.96	50.00	30,110.60	23.11	695,850.53
1993	1,935,794.66	50.00	38,715.80	23.84	922,942.85

FE 2023 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	3,257,724.13	50.00	65,154.32	24.58	1,601,388.45
1995	1,158,379.14	50.00	23,167.53	25.33	586,786.32
1996	1,349,522.12	50.00	26,990.38	26.09	704,108.98
1997	1,983,178.04	50.00	39,663.46	26.86	1,065,221.34
1998	2,781,161.35	50.00	55,623.09	27.63	1,537,143.90
1999	5,706,758.65	50.00	114,134.89	28.42	3,244,024.29
2000	1,298,951.39	50.00	25,978.96	29.22	759,091.26
2001	1,218,513.41	50.00	24,370.21	30.03	731,715.64
2002	1,485,487.11	50.00	29,709.67	30.84	916,221.24
2003	1,838,352.37	50.00	36,766.96	31.66	1,164,104.80
2004	1,532,247.43	50.00	30,644.87	32.49	995,727.29
2005	2,140,184.47	50.00	42,803.58	33.33	1,426,694.34
2006	1,796,554.76	50.00	35,931.01	34.18	1,228,038.24
2007	1,068,310.33	50.00	21,366.15	35.03	748,492.75
2008	1,042,251.48	50.00	20,844.98	35.89	748,189.55
2009	1,583,964.43	50.00	31,679.21	36.76	1,164,573.58
2010	1,051,327.62	50.00	21,026.50	37.64	791,368.02
2011	2,588,326.05	50.00	51,766.39	38.52	1,993,966.38
2012	2,744,981.91	50.00	54,899.50	39.41	2,163,411.07
2013	2,818,230.25	50.00	56,364.47	40.30	2,271,548.28
2014	2,857,568.43	50.00	57,151.23	41.20	2,354,702.44
2015	3,934,332.33	50.00	78,686.45	42.11	3,313,256.19
2016	3,927,574.02	50.00	78,551.29	43.02	3,379,140.06
2017	4,520,477.21	50.00	90,409.32	43.93	3,972,096.86
2018	5,054,425.26	50.00	101,088.25	44.86	4,534,398.17
2019	3,845,883.32	50.00	76,917.48	45.78	3,521,415.27
2020	3,193,896.23	50.00	63,877.77	46.71	2,983,863.58

FE 2023 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	3,286,491.40	50.00	65,729.66	47.65	3,131,798.30
2022	4,142,995.74	50.00	82,859.71	48.59	4,025,757.16
2023	3,757,351.07	50.00	75,146.83	49.53	3,721,841.36
Total	91,532,113.29	50.00	1,830,637.72	35.94	65,785,919.50

Composite Average Remaining Life ... 35.94 Years

FE 2023 Study - Pennsylvania Power
Electric Division
367.10 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	34,544.79	50.00	690.89	11.72	8,099.59
2000	490.91	50.00	9.82	29.22	286.88
2009	1,034.11	50.00	20.68	36.76	760.31
2012	68,827.49	50.00	1,376.55	39.41	54,245.22
2014	0.04	50.00	0.00	41.20	0.03
2016	0.12	50.00	0.00	43.02	0.10
2018	0.13	50.00	0.00	44.86	0.12
2019	3,183.54	50.00	63.67	45.78	2,914.95
Total	108,081.13	50.00	2,161.62	30.67	66,307.20

Composite Average Remaining Life ... 30.67 Years

FE 2023 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1922	17.26	0.00	0.00	0.00	0.00
1927	84.21	0.00	0.00	0.00	0.00
1928	56.56	0.00	0.00	0.00	0.00
1929	3,603.02	0.00	0.00	0.00	0.00
1930	3,358.21	0.00	0.00	0.00	0.00
1931	2,247.79	0.00	0.00	0.00	0.00
1932	759.56	0.00	0.00	0.00	0.00
1933	1,475.18	0.00	0.00	0.00	0.00
1934	1,461.21	0.00	0.00	0.00	0.00
1935	1,390.61	0.00	0.00	0.00	0.00
1936	61.79	0.00	0.00	0.00	0.00
1937	175.62	0.00	0.00	0.00	0.00
1938	153.21	43.00	3.56	0.50	1.78
1939	110.59	43.00	2.57	0.71	1.83
1940	8.22	43.00	0.19	0.99	0.19
1941	5.54	43.00	0.13	1.33	0.17
1942	2,752.19	43.00	64.00	1.66	106.40
1943	1,016.72	43.00	23.64	1.99	47.02
1944	1,087.92	43.00	25.30	2.32	58.74
1945	9,634.37	43.00	224.05	2.63	589.81
1946	4,264.30	43.00	99.17	2.90	287.16
1948	9,306.77	43.00	216.43	3.39	732.71
1949	230.88	43.00	5.37	3.60	19.33
1950	75.42	43.00	1.75	3.83	6.71
1951	1,793.38	43.00	41.71	4.06	169.26
1952	3,385.25	43.00	78.73	4.28	337.32
1953	7,536.54	43.00	175.27	4.53	793.44

FE 2023 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1955	143.41	43.00	3.34	5.03	16.77
1956	2,970.33	43.00	69.08	5.29	365.41
1957	77,188.67	43.00	1,795.06	5.56	9,979.77
1958	93,572.30	43.00	2,176.07	5.83	12,685.39
1959	149,073.19	43.00	3,466.77	6.11	21,179.57
1960	113,016.09	43.00	2,628.24	6.39	16,806.57
1961	107,805.09	43.00	2,507.06	6.68	16,748.60
1962	92,770.53	43.00	2,157.42	6.97	15,047.72
1963	109,570.97	43.00	2,548.12	7.27	18,536.55
1964	102,179.83	43.00	2,376.24	7.58	18,003.84
1965	87,995.58	43.00	2,046.38	7.89	16,139.56
1966	144,895.31	43.00	3,369.61	8.20	27,643.40
1967	317,310.82	43.00	7,379.21	8.53	62,910.66
1968	218,150.50	43.00	5,073.19	8.86	44,928.79
1969	215,036.56	43.00	5,000.78	9.20	45,982.47
1970	223,856.22	43.00	5,205.88	9.54	49,671.90
1971	272,897.71	43.00	6,346.36	9.90	62,816.63
1972	318,609.30	43.00	7,409.41	10.26	76,053.11
1973	316,816.26	43.00	7,367.71	10.64	78,396.49
1974	374,306.39	43.00	8,704.67	11.03	95,992.39
1975	320,681.65	43.00	7,457.60	11.43	85,209.22
1976	400,600.86	43.00	9,316.16	11.84	110,260.93
1977	511,990.82	43.00	11,906.59	12.26	145,934.37
1978	682,452.55	43.00	15,870.75	12.69	201,391.72
1979	869,603.98	43.00	20,223.05	13.13	265,627.46
1980	727,577.47	43.00	16,920.15	13.59	229,979.37
1981	718,254.15	43.00	16,703.34	14.06	234,868.62

FE 2023 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1982	851,822.84	43.00	19,809.54	14.54	288,076.64
1983	793,331.35	43.00	18,449.29	15.04	277,424.77
1984	1,003,322.71	43.00	23,332.74	15.54	362,657.60
1985	830,087.77	43.00	19,304.08	16.06	310,031.36
1986	1,361,066.69	43.00	31,652.24	16.59	525,162.20
1987	1,161,689.04	43.00	27,015.62	17.13	462,865.47
1988	1,345,435.94	43.00	31,288.74	17.69	553,382.25
1989	1,171,988.52	43.00	27,255.14	18.25	497,478.52
1990	1,502,067.19	43.00	34,931.27	18.83	657,715.05
1991	1,180,003.02	43.00	27,441.52	19.42	532,801.20
1992	1,620,338.19	43.00	37,681.72	20.02	754,221.12
1993	1,463,989.41	43.00	34,045.76	20.62	702,176.00
1994	1,394,257.99	43.00	32,424.12	21.24	688,803.64
1995	1,383,165.79	43.00	32,166.17	21.87	703,617.70
1996	1,286,476.12	43.00	29,917.60	22.51	673,562.66
1997	1,099,573.05	43.00	25,571.09	23.16	592,297.46
1998	1,563,902.72	43.00	36,369.29	23.82	866,408.51
1999	1,187,872.04	43.00	27,624.52	24.49	676,527.91
2000	791,506.36	43.00	18,406.85	25.17	463,231.92
2001	877,376.51	43.00	20,403.80	25.85	527,485.46
2002	1,047,169.10	43.00	24,352.41	26.55	646,445.54
2003	2,687,711.23	43.00	62,503.98	27.25	1,703,000.53
2004	4,954,959.50	43.00	115,229.90	27.96	3,221,357.14
2005	5,192,229.92	43.00	120,747.73	28.67	3,462,066.86
2006	4,562,539.23	43.00	106,103.98	29.39	3,118,894.10
2007	5,529,113.93	43.00	128,582.13	30.13	3,873,571.65
2008	5,337,873.53	43.00	124,134.75	30.86	3,830,980.05

FE 2023 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2009	5,070,369.62	43.00	117,913.82	31.60	3,726,509.30
2010	5,581,788.60	43.00	129,807.10	32.35	4,199,616.55
2011	5,374,138.60	43.00	124,978.11	33.11	4,137,636.15
2012	3,500,848.89	43.00	81,413.88	33.87	2,757,202.45
2013	3,169,758.91	43.00	73,714.23	34.63	2,552,906.83
2014	4,191,838.83	43.00	97,483.17	35.40	3,451,236.61
2015	4,104,485.73	43.00	95,451.74	36.18	3,453,414.57
2016	3,859,018.31	43.00	89,743.28	36.96	3,317,110.58
2017	3,694,487.30	43.00	85,917.03	37.75	3,243,339.10
2018	4,303,481.13	43.00	100,079.47	38.54	3,857,302.78
2019	4,834,855.03	43.00	112,436.81	39.34	4,423,404.82
2020	5,362,329.76	43.00	124,703.49	40.15	5,006,222.14
2021	4,747,759.57	43.00	110,411.37	40.95	4,521,785.36
2022	5,462,486.89	43.00	127,032.69	41.77	5,306,020.48
2023	5,350,437.28	43.00	124,426.92	42.59	5,299,191.40
Total	129,414,333.00	37.63	3,009,249.19	30.64	92,191,471.58

Composite Average Remaining Life ... 30.64 Years

FE 2023 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1941	51.68	60.00	0.86	1.93	1.66
1942	134.23	60.00	2.24	2.18	4.87
1943	65.00	60.00	1.08	2.40	2.61
1944	144.63	60.00	2.41	2.67	6.43
1945	190.71	60.00	3.18	2.90	9.22
1946	5,162.71	60.00	86.04	3.15	270.79
1947	12,942.92	60.00	215.71	3.40	734.33
1948	15,961.33	60.00	266.02	3.67	977.07
1949	18,646.76	60.00	310.78	3.93	1,221.85
1950	24,728.99	60.00	412.15	4.21	1,735.37
1951	26,434.65	60.00	440.58	4.47	1,970.74
1952	35,272.94	60.00	587.88	4.75	2,789.92
1953	38,759.94	60.00	646.00	5.03	3,247.90
1954	38,486.60	60.00	641.44	5.32	3,413.42
1955	45,281.41	60.00	754.69	5.62	4,239.29
1956	59,495.97	60.00	991.60	5.93	5,881.53
1957	61,862.15	60.00	1,031.03	6.25	6,442.93
1958	53,908.17	60.00	898.47	6.58	5,915.41
1959	56,937.98	60.00	948.96	6.94	6,582.74
1960	50,311.93	60.00	838.53	7.31	6,128.45
1961	50,855.02	60.00	847.58	7.70	6,527.08
1962	103,016.31	60.00	1,716.93	8.12	13,934.75
1963	57,882.63	60.00	964.71	8.55	8,252.11
1964	59,269.73	60.00	987.83	9.02	8,910.46
1965	64,779.35	60.00	1,079.65	9.51	10,270.48
1966	77,814.36	60.00	1,296.90	10.03	13,007.65
1967	83,207.08	60.00	1,386.78	10.58	14,669.79

FE 2023 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1968	102,330.47	60.00	1,705.50	11.15	19,010.49
1969	97,478.85	60.00	1,624.64	11.75	19,086.48
1970	115,447.82	60.00	1,924.13	12.37	23,802.64
1971	152,393.30	60.00	2,539.88	13.01	33,047.65
1972	235,453.12	60.00	3,924.21	13.67	53,631.50
1973	303,719.94	60.00	5,061.98	14.34	72,585.48
1974	316,634.71	60.00	5,277.23	15.02	79,260.85
1975	258,251.88	60.00	4,304.19	15.72	67,643.32
1976	205,961.18	60.00	3,432.68	16.42	56,373.19
1977	218,094.77	60.00	3,634.90	17.14	62,303.50
1978	295,130.40	60.00	4,918.83	17.87	87,891.71
1979	300,812.79	60.00	5,013.53	18.61	93,310.16
1980	319,105.28	60.00	5,318.41	19.36	102,981.49
1981	355,379.94	60.00	5,922.98	20.13	119,244.48
1982	358,564.76	60.00	5,976.06	20.91	124,980.51
1983	415,727.83	60.00	6,928.78	21.71	150,398.00
1984	456,846.79	60.00	7,614.09	22.51	171,391.11
1985	480,038.90	60.00	8,000.63	23.33	186,637.71
1986	667,927.69	60.00	11,132.10	24.15	268,888.63
1987	738,891.95	60.00	12,314.83	25.00	307,832.76
1988	1,103,549.54	60.00	18,392.44	25.85	475,444.95
1989	1,046,915.85	60.00	17,448.55	26.71	466,110.29
1990	1,477,462.10	60.00	24,624.30	27.59	679,286.24
1991	929,685.53	60.00	15,494.72	28.47	441,145.14
1992	890,351.06	60.00	14,839.14	29.36	435,710.59
1993	1,052,323.05	60.00	17,538.67	30.27	530,830.47
1994	1,829,880.26	60.00	30,497.92	31.18	950,876.36

FE 2023 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1995	2,104,236.27	60.00	35,070.51	32.10	1,125,700.53
1996	2,175,492.22	60.00	36,258.10	33.02	1,197,416.61
1997	828,036.99	60.00	13,800.58	33.96	468,666.00
1998	239,282.97	60.00	3,988.04	34.90	139,181.99
1999	3,182,530.93	60.00	53,042.04	35.85	1,901,459.13
2000	134,086.33	60.00	2,234.77	36.80	82,243.31
2001	216,280.86	60.00	3,604.67	37.76	136,113.44
2002	223,804.78	60.00	3,730.07	38.72	144,439.87
2003	478,228.76	60.00	7,970.46	39.69	316,355.95
2004	821,293.99	60.00	13,688.20	40.66	556,588.94
2005	934,412.40	60.00	15,573.50	41.64	648,443.93
2006	1,597,362.08	60.00	26,622.63	42.62	1,134,558.20
2007	965,111.17	60.00	16,085.14	43.60	701,265.93
2008	809,330.17	60.00	13,488.80	44.58	601,348.82
2009	1,020,079.79	60.00	17,001.28	45.57	774,708.73
2010	888,002.72	60.00	14,800.00	46.56	689,021.35
2011	1,240,304.61	60.00	20,671.69	47.55	982,848.73
2012	1,101,481.82	60.00	18,357.98	48.54	891,045.38
2013	747,768.10	60.00	12,462.77	49.53	617,281.61
2014	1,185,135.42	60.00	19,752.20	50.52	997,959.01
2015	1,047,055.28	60.00	17,450.87	51.52	899,050.92
2016	997,559.20	60.00	16,625.94	52.51	873,105.46
2017	905,979.73	60.00	15,099.62	53.51	808,000.14
2018	1,064,944.18	60.00	17,749.02	54.51	967,472.38
2019	1,209,780.91	60.00	20,162.96	55.51	1,119,169.00
2020	1,325,198.68	60.00	22,086.58	56.50	1,247,986.31
2021	1,159,683.05	60.00	19,328.00	57.50	1,111,413.54

FE 2023 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2022	1,197,310.73	60.00	19,955.12	58.50	1,167,404.74
2023	1,400,051.76	60.00	23,334.13	59.50	1,388,393.99
Total	46,965,790.84	60.00	782,761.02	38.19	29,895,498.45

Composite Average Remaining Life ... 38.19 Years

FE 2023 Study - Pennsylvania Power
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	4,838.70	15.00	322.58	3.62	1,168.18
2010	1,326.82	15.00	88.45	4.45	393.22
2013	113,425.08	15.00	7,561.67	5.99	45,315.20
2014	4,843,840.47	15.00	322,922.71	6.61	2,134,722.67
2015	23,642,400.65	15.00	1,576,160.10	7.29	11,483,574.93
2016	7,538,447.84	15.00	502,563.21	8.02	4,031,780.50
2017	1,332,669.76	15.00	88,844.65	8.82	783,577.53
2018	3,357,940.93	15.00	223,862.74	9.67	2,165,704.55
2019	2,041,783.36	15.00	136,118.90	10.58	1,440,324.63
2020	1,562,931.61	15.00	104,195.44	11.53	1,201,363.85
2021	1,701,002.09	15.00	113,400.14	12.51	1,418,320.10
2022	1,397,212.99	15.00	93,147.54	13.50	1,257,565.17
2023	1,500,363.96	15.00	100,024.27	14.50	1,450,352.38
Total	49,038,184.26	15.00	3,269,212.41	8.39	27,414,162.92

Composite Average Remaining Life ... 8.39 Years

FE 2023 Study - Pennsylvania Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 33 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1985	46,710.65	33.00	1,415.46	6.79	9,605.36
1986	137,608.86	33.00	4,169.94	7.17	29,916.68
1987	334,076.14	33.00	10,123.45	7.58	76,727.18
1988	184,422.49	33.00	5,588.52	8.00	44,713.60
1989	247,965.55	33.00	7,514.05	8.44	63,420.82
1990	362,486.95	33.00	10,984.37	8.90	97,732.82
1991	419,238.49	33.00	12,704.11	9.37	119,081.62
1992	318,064.59	33.00	9,638.25	9.87	95,099.21
1993	313,659.03	33.00	9,504.75	10.38	98,643.38
1994	55,391.25	33.00	1,678.51	10.91	18,308.84
1995	32,730.45	33.00	991.82	11.46	11,361.42
1996	72,142.69	33.00	2,186.13	12.02	26,277.10
1997	49,661.04	33.00	1,504.87	12.60	18,964.49
1998	50,327.87	33.00	1,525.08	13.20	20,132.81
1999	29,562.60	33.00	895.83	13.82	12,377.57
2000	38,279.49	33.00	1,159.98	14.45	16,760.19
2001	17,593.88	33.00	533.14	15.10	8,048.54
2002	22,648.18	33.00	686.30	15.76	10,815.71
2003	45,148.08	33.00	1,368.11	16.44	22,488.09
2004	72,212.72	33.00	2,188.25	17.13	37,484.11
2005	82,525.68	33.00	2,500.76	17.84	44,604.20
2006	120,445.73	33.00	3,649.84	18.56	67,728.24
2007	48,817.26	33.00	1,479.30	19.29	28,535.68
2008	51,803.85	33.00	1,569.80	20.04	31,453.19
2009	35,007.31	33.00	1,060.82	20.80	22,060.13
2010	82,292.82	33.00	2,493.70	21.57	53,780.45
2011	103,461.02	33.00	3,135.16	22.35	70,069.13

FE 2023 Study - Pennsylvania Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *33* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	69,333.80	33.00	2,101.01	23.14	48,625.57
2013	83,293.12	33.00	2,524.02	23.95	60,448.96
2014	43,479.38	33.00	1,317.55	24.77	32,630.31
2015	62,242.06	33.00	1,886.11	25.59	48,270.97
2016	32,703.16	33.00	991.00	26.43	26,192.06
2017	42,910.36	33.00	1,300.30	27.28	35,468.34
2018	55,902.08	33.00	1,693.99	28.13	47,657.78
2019	39,854.19	33.00	1,207.69	29.00	35,022.10
2020	61,312.15	33.00	1,857.93	29.87	55,503.31
2021	61,247.66	33.00	1,855.98	30.76	57,083.97
2022	79,689.83	33.00	2,414.83	31.65	76,424.84
2023	85,940.05	33.00	2,604.23	32.55	84,760.73
Total	4,092,192.51	33.00	124,004.94	14.23	1,764,279.50

Composite Average Remaining Life ... *14.23 Years*

FE 2023 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 20 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1927	1,972.68	0.00	0.00	0.00	0.00
1928	3,266.74	0.00	0.00	0.00	0.00
1929	596.58	0.00	0.00	0.00	0.00
1930	1,957.68	0.00	0.00	0.00	0.00
1931	1,047.50	0.00	0.00	0.00	0.00
1935	126.84	0.00	0.00	0.00	0.00
1937	1,726.53	0.00	0.00	0.00	0.00
1939	349.54	0.00	0.00	0.00	0.00
1940	828.08	0.00	0.00	0.00	0.00
1948	3,281.54	0.00	0.00	0.00	0.00
1953	785.35	0.00	0.00	0.00	0.00
1954	4,323.92	0.00	0.00	0.00	0.00
1955	1,125.14	0.00	0.00	0.00	0.00
1958	958.56	0.00	0.00	0.00	0.00
1959	24.15	0.00	0.00	0.00	0.00
1960	363.88	0.00	0.00	0.00	0.00
1961	2,114.34	0.00	0.00	0.00	0.00
1962	4,542.42	0.00	0.00	0.00	0.00
1963	5,502.45	0.00	0.00	0.00	0.00
1964	7,688.39	0.00	0.00	0.00	0.00
1965	20,315.65	0.00	0.00	0.00	0.00
1966	20,487.71	0.00	0.00	0.00	0.00
1967	41,093.01	0.00	0.00	0.00	0.00
1968	2,901.25	0.00	0.00	0.00	0.00
1969	4,222.98	0.00	0.00	0.00	0.00
1970	60,849.76	0.00	0.00	0.00	0.00
1971	18,670.41	0.00	0.00	0.00	0.00

FE 2023 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 20 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1972	2,656.45	0.00	0.00	0.00	0.00
1973	172.59	0.00	0.00	0.00	0.00
1974	26,320.76	0.00	0.00	0.00	0.00
1975	47,916.05	0.00	0.00	0.00	0.00
1976	6,035.26	0.00	0.00	0.00	0.00
1977	2,933.93	0.00	0.00	0.00	0.00
1978	3,744.42	0.00	0.00	0.00	0.00
1979	62,705.27	0.00	0.00	0.00	0.00
1980	40,286.11	0.00	0.00	0.00	0.00
1981	4,891.02	0.00	0.00	0.00	0.00
1982	43,809.19	0.00	0.00	0.00	0.00
1983	12,447.92	0.00	0.00	0.00	0.00
1984	5,669.05	0.00	0.00	0.00	0.00
1985	47,562.08	0.00	0.00	0.00	0.00
1986	5,964.38	0.00	0.00	0.00	0.00
1987	4,424.19	20.00	221.21	0.50	110.60
1988	408.85	20.00	20.44	0.55	11.33
1990	6,463.04	20.00	323.15	1.02	329.48
1991	15,027.17	20.00	751.34	1.29	971.96
1992	9,383.06	20.00	469.14	1.57	735.49
1993	5,322.08	20.00	266.10	1.86	493.62
1994	33,022.47	20.00	1,651.09	2.14	3,531.17
1995	18,113.22	20.00	905.64	2.43	2,201.91
1996	51,959.48	20.00	2,597.92	2.73	7,080.51
1997	32,928.75	20.00	1,646.40	3.03	4,994.47
1998	14,124.10	20.00	706.19	3.35	2,368.23
1999	24,942.45	20.00	1,247.10	3.69	4,607.49

FE 2023 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2000	9,317.77	20.00	465.88	4.06	1,890.05
2001	22,388.48	20.00	1,119.40	4.45	4,976.23
2002	36,769.58	20.00	1,838.44	4.86	8,937.50
2003	71,320.73	20.00	3,565.97	5.31	18,922.37
2004	112,284.40	20.00	5,614.11	5.78	32,455.17
2005	122,621.78	20.00	6,130.97	6.28	38,532.91
2006	121,484.15	20.00	6,074.09	6.82	41,425.09
2007	87,386.34	20.00	4,369.23	7.38	32,257.16
2008	78,642.83	20.00	3,932.06	7.98	31,360.38
2009	89,929.84	20.00	4,496.40	8.59	38,643.20
2010	219,281.92	20.00	10,963.88	9.24	101,315.18
2011	198,067.59	20.00	9,903.18	9.91	98,151.58
2012	142,578.30	20.00	7,128.77	10.61	75,614.29
2013	220,162.30	20.00	11,007.90	11.32	124,656.27
2014	260,158.20	20.00	13,007.65	12.06	156,934.40
2015	209,882.76	20.00	10,493.93	12.82	134,583.02
2016	157,837.40	20.00	7,891.71	13.61	107,374.21
2017	226,273.40	20.00	11,313.45	14.40	162,968.09
2018	77,677.58	20.00	3,883.80	15.22	59,120.23
2019	103,256.95	20.00	5,162.75	16.06	82,897.20
2020	64,021.94	20.00	3,201.03	16.91	54,123.08
2021	62,879.49	20.00	3,143.91	17.77	55,878.86
2022	195,956.00	20.00	9,797.61	18.65	182,770.27
2023	95,181.63	20.00	4,758.99	19.55	93,030.10

FE 2023 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	3,725,717.78	9.23	160,070.84	11.03	1,766,253.08

Composite Average Remaining Life ... *11.03 Years*

FE 2023 Study - Pennsylvania Power
Electric Division
373.20 Street Lighting and Signal Systems - ESIP
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	2,923.22	20.00	146.16	7.38	1,079.06
2009	3,092.00	20.00	154.60	8.59	1,328.64
2011	582.10	20.00	29.10	9.91	288.46
2012	1,646.55	20.00	82.33	10.61	873.22
2013	6,101.49	20.00	305.07	11.32	3,454.67
2014	4,093.59	20.00	204.68	12.06	2,469.36
2015	5,287.97	20.00	264.39	12.82	3,390.80
2016	641.39	20.00	32.07	13.61	436.33
2017	609.98	20.00	30.50	14.40	439.32
Total	24,978.29	20.00	1,248.89	11.02	13,759.87

Composite Average Remaining Life ... 11.02 Years

FE 2023 Study - Pennsylvania Power
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	1,734,610.39	20.00	86,728.80	13.61	1,180,027.14
2017	618,841.79	20.00	30,941.48	14.40	445,706.22
2018	297,231.11	20.00	14,861.26	15.22	226,221.93
2019	258,661.81	20.00	12,932.83	16.06	207,660.02
2020	295,547.03	20.00	14,777.06	16.91	249,850.52
2021	344,950.87	20.00	17,247.20	17.77	306,546.07
2022	452,988.77	20.00	22,648.99	18.65	422,507.50
2023	512,330.20	20.00	25,616.00	19.55	500,749.27
Total	4,515,161.97	20.00	225,753.62	15.68	3,539,268.67

Composite Average Remaining Life ... 15.68 Years

FE 2023 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1903	1,346.13	0.00	0.00	0.00	0.00
1905	531.48	0.00	0.00	0.00	0.00
1906	5,832.20	0.00	0.00	0.00	0.00
1907	2,066.98	0.00	0.00	0.00	0.00
1908	689.19	0.00	0.00	0.00	0.00
1909	106.95	0.00	0.00	0.00	0.00
1910	1,707.94	75.00	22.77	0.50	11.39
1911	521.99	75.00	6.96	0.62	4.31
1912	30,138.83	75.00	401.85	0.77	307.47
1913	8,547.09	75.00	113.96	0.84	95.98
1914	8,099.79	75.00	108.00	1.08	116.58
1915	7,919.63	75.00	105.59	1.30	137.01
1916	5,844.20	75.00	77.92	1.44	111.99
1917	4,783.88	75.00	63.78	1.67	106.62
1918	4,029.44	75.00	53.73	1.91	102.36
1919	1,749.99	75.00	23.33	2.08	48.63
1921	12,313.14	75.00	164.17	2.57	422.03
1922	6,268.83	75.00	83.58	2.78	232.19
1923	27,574.85	75.00	367.66	3.03	1,113.57
1924	29,796.03	75.00	397.28	3.29	1,305.19
1925	26,376.16	75.00	351.68	3.51	1,235.61
1926	33,323.32	75.00	444.31	3.77	1,676.49
1927	44,437.95	75.00	592.50	4.04	2,392.65
1928	17,664.58	75.00	235.53	4.28	1,008.19
1929	20,292.42	75.00	270.56	4.55	1,230.36
1930	19,568.32	75.00	260.91	4.82	1,257.28
1931	15,318.04	75.00	204.24	5.07	1,036.00

FE 2023 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1932	37,636.02	75.00	501.81	5.35	2,682.84
1933	11,954.78	75.00	159.40	5.63	896.65
1934	5,486.49	75.00	73.15	5.89	431.01
1935	6,429.77	75.00	85.73	6.18	529.51
1936	67,051.10	75.00	894.01	6.47	5,782.43
1937	17,372.38	75.00	231.63	6.75	1,564.35
1938	39,462.14	75.00	526.16	7.06	3,712.90
1939	63,470.20	75.00	846.27	7.37	6,236.04
1940	40,888.60	75.00	545.18	7.68	4,188.78
1941	60,811.18	75.00	810.81	8.01	6,498.55
1942	24,413.12	75.00	325.51	8.36	2,720.87
1943	66,033.10	75.00	880.44	8.71	7,671.71
1944	11,848.74	75.00	157.98	9.09	1,435.34
1945	38,002.57	75.00	506.70	9.47	4,800.02
1946	42,699.59	75.00	569.33	9.88	5,624.74
1947	76,458.80	75.00	1,019.45	10.30	10,504.00
1948	102,701.95	75.00	1,369.35	10.75	14,715.48
1949	113,555.41	75.00	1,514.06	11.21	16,979.54
1950	177,733.18	75.00	2,369.76	11.70	27,726.07
1951	132,312.91	75.00	1,764.16	12.21	21,532.82
1952	110,350.98	75.00	1,471.34	12.74	18,745.73
1953	80,016.27	75.00	1,066.88	13.29	14,180.08
1954	85,927.38	75.00	1,145.69	13.86	15,880.95
1955	66,923.91	75.00	892.31	14.46	12,902.53
1956	61,553.31	75.00	820.71	15.07	12,368.19
1957	69,444.12	75.00	925.92	15.70	14,533.76
1958	68,534.84	75.00	913.79	16.34	14,935.88

FE 2023 Study - West Penn Power
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1959	63,047.68	75.00	840.63	17.00	14,291.60
1960	135,140.89	75.00	1,801.87	17.67	31,834.80
1961	114,218.59	75.00	1,522.91	18.35	27,944.33
1962	110,911.42	75.00	1,478.81	19.04	28,150.64
1963	77,556.12	75.00	1,034.08	19.73	20,403.01
1964	78,839.01	75.00	1,051.18	20.44	21,485.36
1965	143,220.80	75.00	1,909.60	21.15	40,394.52
1966	74,025.53	75.00	987.00	21.88	21,591.91
1967	57,221.59	75.00	762.95	22.61	17,253.23
1968	110,813.46	75.00	1,477.51	23.36	34,510.71
1969	51,834.74	75.00	691.13	24.11	16,663.17
1970	133,210.30	75.00	1,776.13	24.88	44,186.19
1971	43,471.66	75.00	579.62	25.65	14,868.22
1972	81,637.19	75.00	1,088.49	26.43	28,774.06
1973	46,647.51	75.00	621.96	27.23	16,937.68
1974	26,882.24	75.00	358.43	28.04	10,049.09
1975	42,949.39	75.00	572.66	28.85	16,520.87
1976	17,083.94	75.00	227.78	29.68	6,759.86
1977	33,895.94	75.00	451.94	30.51	13,788.59
1978	60,649.68	75.00	808.66	31.35	25,352.32
1979	158,576.12	75.00	2,114.34	32.21	68,093.61
1980	106,745.30	75.00	1,423.26	33.07	47,061.48
1981	108,441.19	75.00	1,445.88	33.93	49,064.41
1982	106,373.60	75.00	1,418.31	34.81	49,376.97
1983	50,068.65	75.00	667.58	35.70	23,832.02
1984	186,242.84	75.00	2,483.23	36.59	90,865.01
1985	148,908.94	75.00	1,985.44	37.49	74,442.80

FE 2023 Study - West Penn Power
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1986	361,961.06	75.00	4,826.12	38.40	185,331.65
1987	94,952.99	75.00	1,266.03	39.32	49,774.76
1988	133,950.93	75.00	1,786.00	40.24	71,865.77
1989	130,280.43	75.00	1,737.06	41.17	71,506.56
1990	221,120.40	75.00	2,948.26	42.10	124,114.22
1991	232,572.85	75.00	3,100.96	43.04	133,457.12
1992	189,342.35	75.00	2,524.55	43.98	111,031.85
1993	84,087.10	75.00	1,121.16	44.93	50,372.13
1994	71,384.64	75.00	951.79	45.88	43,671.00
1995	502,549.76	75.00	6,700.63	46.84	313,858.27
1996	515,551.06	75.00	6,873.98	47.80	328,582.77
1997	622,579.46	75.00	8,301.02	48.77	404,814.51
1998	419,896.16	75.00	5,598.59	49.74	278,446.24
1999	121,829.14	75.00	1,624.38	50.71	82,366.27
2000	154,395.76	75.00	2,058.60	51.68	106,391.42
2001	56,673.04	75.00	755.64	52.66	39,790.66
2002	173,984.52	75.00	2,319.78	53.64	124,427.87
2003	85,817.01	75.00	1,144.22	54.62	62,497.46
2004	10,965.79	75.00	146.21	55.60	8,129.83
2005	326,906.37	75.00	4,358.73	56.59	246,657.60
2006	14,195.39	75.00	189.27	57.58	10,897.67
2007	252,085.02	75.00	3,361.12	58.57	196,846.79
2008	559,069.56	75.00	7,454.22	59.56	443,943.51
2009	7,234.71	75.00	96.46	60.55	5,840.57
2010	339,611.40	75.00	4,528.13	61.54	278,661.97
2011	549,038.03	75.00	7,320.47	62.53	457,775.42
2012	117,948.80	75.00	1,572.64	63.53	99,907.12

FE 2023 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	139,170.36	75.00	1,855.60	64.52	119,729.10
2014	3,190.18	75.00	42.54	65.52	2,786.89
2023	172.69	75.00	2.30	74.50	171.54
Total	10,877,053.47	70.95	144,885.70	38.46	5,571,877.68

Composite Average Remaining Life ... 38.46 Years

FE 2023 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1903	3,430.33	0.00	0.00	0.00	0.00
1906	1,733.22	70.00	24.76	0.50	12.38
1912	7,453.06	70.00	106.47	1.62	172.68
1913	7,831.03	70.00	111.87	1.88	210.33
1915	25.87	70.00	0.37	2.36	0.87
1921	9,597.00	70.00	137.10	3.85	527.86
1922	1,543.59	70.00	22.05	4.11	90.69
1924	3,100.20	70.00	44.29	4.62	204.72
1925	2,154.91	70.00	30.78	4.89	150.49
1926	8,621.79	70.00	123.17	5.14	632.53
1927	1,726.86	70.00	24.67	5.40	133.19
1928	18,215.17	70.00	260.22	5.65	1,470.30
1929	17,054.22	70.00	243.63	5.91	1,440.41
1930	4,433.65	70.00	63.34	6.18	391.34
1931	73,896.27	70.00	1,055.66	6.43	6,785.89
1932	83,553.88	70.00	1,193.63	6.70	7,992.39
1933	16,261.22	70.00	232.30	6.95	1,615.32
1934	2,206.54	70.00	31.52	7.23	227.76
1935	17.45	70.00	0.25	7.49	1.87
1936	4,950.43	70.00	70.72	7.77	549.69
1937	33.85	70.00	0.48	8.06	3.90
1938	762.86	70.00	10.90	8.34	90.92
1939	7,237.46	70.00	103.39	8.64	893.54
1940	1,018.36	70.00	14.55	8.94	130.11
1941	10,665.32	70.00	152.36	9.26	1,410.58
1942	1,130.12	70.00	16.14	9.58	154.65
1943	585.21	70.00	8.36	9.91	82.87

FE 2023 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1944	624.48	70.00	8.92	10.26	91.50
1945	1,072.31	70.00	15.32	10.61	162.52
1946	771.04	70.00	11.01	10.98	120.89
1947	649.77	70.00	9.28	11.35	105.38
1948	242.40	70.00	3.46	11.74	40.67
1949	3,937.15	70.00	56.24	12.15	683.18
1950	41,187.58	70.00	588.39	12.56	7,391.52
1951	22,460.84	70.00	320.87	12.99	4,168.19
1952	17,039.01	70.00	243.41	13.43	3,270.09
1953	35,398.61	70.00	505.69	13.89	7,023.66
1954	57,275.77	70.00	818.23	14.36	11,749.99
1955	41,888.56	70.00	598.41	14.84	8,881.90
1956	23,006.17	70.00	328.66	15.34	5,041.91
1957	8,201.15	70.00	117.16	15.85	1,857.04
1958	118,833.98	70.00	1,697.63	16.37	27,794.26
1959	126,631.50	70.00	1,809.02	16.91	30,595.26
1960	26,358.41	70.00	376.55	17.46	6,575.07
1961	111,376.81	70.00	1,591.10	18.03	28,683.28
1962	67,384.84	70.00	962.64	18.60	17,907.45
1963	137,220.00	70.00	1,960.29	19.19	37,624.11
1964	111,180.35	70.00	1,588.29	19.79	31,438.04
1965	117,297.07	70.00	1,675.67	20.40	34,191.71
1966	114,741.44	70.00	1,639.16	21.03	34,476.65
1967	95,215.84	70.00	1,360.23	21.67	29,473.36
1968	175,911.13	70.00	2,513.02	22.32	56,086.09
1969	139,598.19	70.00	1,994.26	22.98	45,819.60
1970	203,137.04	70.00	2,901.96	23.65	68,622.01

FE 2023 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1971	159,840.31	70.00	2,283.43	24.33	55,546.18
1972	129,291.14	70.00	1,847.02	25.01	46,200.28
1973	79,209.37	70.00	1,131.56	25.72	29,099.07
1974	471,593.86	70.00	6,737.05	26.42	178,015.55
1975	289,025.80	70.00	4,128.94	27.14	112,075.07
1976	91,579.90	70.00	1,308.28	27.87	36,461.99
1977	236,245.15	70.00	3,374.93	28.61	96,549.17
1978	216,627.56	70.00	3,094.68	29.35	90,834.83
1979	338,386.84	70.00	4,834.10	30.10	145,523.18
1980	185,107.74	70.00	2,644.40	30.87	81,625.76
1981	380,586.16	70.00	5,436.94	31.64	172,002.01
1982	540,937.66	70.00	7,727.68	32.42	250,494.16
1983	402,375.66	70.00	5,748.22	33.20	190,839.10
1984	321,655.95	70.00	4,595.08	33.99	156,205.30
1985	831,497.93	70.00	11,878.54	34.79	413,302.90
1986	735,895.35	70.00	10,512.79	35.60	374,262.36
1987	780,857.69	70.00	11,155.11	36.42	406,248.06
1988	333,713.93	70.00	4,767.34	37.24	177,533.84
1989	960,847.26	70.00	13,726.39	38.07	522,574.70
1990	152,246.47	70.00	2,174.95	38.91	84,620.07
1991	652,942.80	70.00	9,327.75	39.75	370,790.16
1992	689,115.75	70.00	9,844.51	40.60	399,697.93
1993	998,247.95	70.00	14,260.68	41.46	591,201.99
1994	316,498.75	70.00	4,521.41	42.32	191,354.94
1995	481,610.78	70.00	6,880.15	43.19	297,159.74
1996	2,416,750.44	70.00	34,525.00	44.07	1,521,456.24
1997	31,006.63	70.00	442.95	44.95	19,910.61

FE 2023 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1998	250,111.60	70.00	3,573.02	45.84	163,783.46
1999	734,026.35	70.00	10,486.09	46.73	490,042.09
2000	14,214.76	70.00	203.07	47.63	9,672.40
2001	36,776.69	70.00	525.38	48.54	25,500.96
2002	305,623.25	70.00	4,366.05	49.45	215,892.00
2003	1,510,282.51	70.00	21,575.46	50.36	1,086,644.72
2004	261,803.49	70.00	3,740.05	51.29	191,809.42
2005	927,118.55	70.00	13,244.55	52.21	691,520.91
2006	580,841.08	70.00	8,297.73	53.14	440,957.42
2007	34,505.07	70.00	492.93	54.08	26,655.76
2008	7,441.82	70.00	106.31	55.02	5,848.91
2010	64,156.38	70.00	916.52	56.91	52,157.14
2011	30,283.45	70.00	432.62	57.86	25,030.90
2012	6,131.56	70.00	87.59	58.81	5,151.75
2013	138,389.96	70.00	1,977.00	59.77	118,169.84
2014	975,143.00	70.00	13,930.61	60.73	846,053.76
2015	577,330.25	70.00	8,247.57	61.70	508,865.78
2016	444,323.93	70.00	6,347.48	62.67	397,772.00
2017	380,083.42	70.00	5,429.76	63.64	345,533.41
2018	478,173.38	70.00	6,831.05	64.61	441,351.40
2019	375,811.58	70.00	5,368.74	65.59	352,109.99
2020	247,981.35	70.00	3,542.59	66.56	235,804.50
2021	529,703.73	70.00	7,567.20	67.54	511,104.28
2022	10,730.47	70.00	153.29	68.52	10,504.24
2023	2,392.10	70.00	34.17	69.51	2,375.27

FE 2023 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	24,234,955.87	69.34	346,164.62	42.57	14,737,150.12

Composite Average Remaining Life ... *42.57 Years*

FE 2023 Study - West Penn Power
Electric Division
362.10 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1901	2,924.16	0.00	0.00	0.00	0.00
1910	2,259.47	60.00	37.66	2.37	89.11
1911	842.35	60.00	14.04	2.70	37.97
1914	604.41	60.00	10.07	3.68	37.03
1917	840.00	60.00	14.00	4.43	62.08
1918	345.37	60.00	5.76	4.67	26.91
1919	6,313.19	60.00	105.22	4.89	515.00
1920	5,411.62	60.00	90.19	5.13	462.76
1921	71,082.86	60.00	1,184.70	5.35	6,332.97
1922	9,968.16	60.00	166.13	5.57	925.07
1923	6,437.62	60.00	107.29	5.80	622.13
1924	17,800.22	60.00	296.67	6.04	1,791.61
1925	16,463.90	60.00	274.40	6.28	1,722.16
1926	37,888.82	60.00	631.47	6.53	4,123.66
1927	25,192.63	60.00	419.87	6.78	2,844.81
1928	171,714.22	60.00	2,861.87	7.03	20,115.65
1929	26,674.65	60.00	444.57	7.29	3,240.67
1930	14,822.87	60.00	247.05	7.56	1,867.28
1931	75,617.07	60.00	1,260.27	7.83	9,862.88
1932	100,022.87	60.00	1,667.03	8.11	13,512.26
1933	24,830.43	60.00	413.84	8.38	3,467.67
1934	3,194.76	60.00	53.25	8.66	461.04
1935	10,933.64	60.00	182.23	8.94	1,629.69
1936	12,005.55	60.00	200.09	9.23	1,847.66
1937	31,846.05	60.00	530.76	9.52	5,055.14
1938	61,179.99	60.00	1,019.66	9.82	10,016.85
1939	53,012.48	60.00	883.53	10.12	8,941.38

FE 2023 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1940	9,646.71	60.00	160.78	10.42	1,675.55
1941	155,294.42	60.00	2,588.21	10.73	27,767.13
1942	66,836.79	60.00	1,113.93	11.04	12,299.13
1943	40,136.42	60.00	668.93	11.36	7,596.33
1944	52,254.09	60.00	870.89	11.68	10,171.18
1945	59,288.25	60.00	988.13	12.00	11,860.59
1946	178,056.09	60.00	2,967.57	12.33	36,600.73
1947	213,108.80	60.00	3,551.77	12.67	45,002.70
1948	273,691.25	60.00	4,561.47	13.01	59,364.87
1949	228,661.03	60.00	3,810.97	13.36	50,927.51
1950	235,340.77	60.00	3,922.30	13.72	53,816.39
1951	703,513.64	60.00	11,725.10	14.08	165,123.99
1952	651,823.61	60.00	10,863.61	14.45	157,011.45
1953	659,135.26	60.00	10,985.46	14.83	162,922.21
1954	652,338.17	60.00	10,872.18	15.22	165,433.65
1955	465,766.78	60.00	7,762.69	15.61	121,171.09
1956	669,961.10	60.00	11,165.89	16.01	178,772.45
1957	1,743,311.86	60.00	29,054.87	16.42	477,082.98
1958	1,288,445.99	60.00	21,473.86	16.84	361,576.37
1959	770,367.74	60.00	12,839.32	17.26	221,661.66
1960	1,437,563.00	60.00	23,959.12	17.70	424,045.19
1961	1,044,676.98	60.00	17,411.09	18.14	315,878.30
1962	1,307,997.36	60.00	21,799.71	18.59	405,355.77
1963	857,650.03	60.00	14,294.01	19.05	272,369.64
1964	1,086,960.22	60.00	18,115.80	19.52	353,706.46
1965	1,293,763.07	60.00	21,562.48	20.00	431,318.55
1966	1,718,850.10	60.00	28,647.18	20.49	586,969.64

FE 2023 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	2,130,417.22	60.00	35,506.56	20.99	745,138.00
1968	3,257,617.12	60.00	54,293.01	21.49	1,166,705.40
1969	2,943,404.58	60.00	49,056.19	22.00	1,079,392.29
1970	1,908,591.59	60.00	31,809.50	22.53	716,528.04
1971	2,542,370.98	60.00	42,372.38	23.06	976,946.26
1972	1,751,580.78	60.00	29,192.69	23.59	688,781.95
1973	1,727,242.09	60.00	28,787.05	24.14	694,985.68
1974	2,770,406.65	60.00	46,172.93	24.70	1,140,304.08
1975	3,109,055.98	60.00	51,817.02	25.26	1,308,970.85
1976	2,075,213.52	60.00	34,586.50	25.83	893,513.25
1977	3,908,198.61	60.00	65,135.91	26.41	1,720,534.43
1978	4,554,003.07	60.00	75,899.20	27.00	2,049,414.69
1979	4,601,618.22	60.00	76,692.78	27.60	2,116,597.05
1980	2,601,185.60	60.00	43,352.61	28.20	1,222,559.60
1981	5,477,164.12	60.00	91,285.05	28.81	2,630,170.93
1982	7,342,813.12	60.00	122,378.85	29.43	3,601,863.84
1983	7,348,039.34	60.00	122,465.95	30.06	3,681,122.09
1984	4,205,752.21	60.00	70,095.09	30.69	2,151,271.25
1985	8,768,047.93	60.00	146,132.50	31.33	4,578,580.54
1986	7,860,787.89	60.00	131,011.66	31.98	4,189,406.15
1987	6,198,691.12	60.00	103,310.36	32.63	3,371,270.45
1988	5,254,544.31	60.00	87,574.76	33.29	2,915,690.61
1989	9,227,971.62	60.00	153,797.81	33.96	5,223,142.45
1990	5,279,279.30	60.00	87,987.00	34.63	3,047,329.98
1991	7,126,174.92	60.00	118,768.25	35.31	4,194,201.76
1992	7,166,396.64	60.00	119,438.61	36.00	4,299,608.21
1993	8,883,699.58	60.00	148,060.00	36.69	5,432,485.50

FE 2023 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	8,883,280.00	60.00	148,053.01	37.39	5,535,563.90
1995	6,462,711.40	60.00	107,710.65	38.09	4,102,939.01
1996	10,220,461.13	60.00	170,339.11	38.80	6,609,154.02
1997	4,262,105.62	60.00	71,034.30	39.51	2,806,863.76
1998	4,356,152.13	60.00	72,601.72	40.23	2,920,894.63
1999	4,178,956.67	60.00	69,648.50	40.96	2,852,551.88
2000	4,545,129.36	60.00	75,751.31	41.69	3,157,732.85
2001	3,352,260.94	60.00	55,870.39	42.42	2,369,965.26
2002	3,332,175.46	60.00	55,535.64	43.16	2,396,710.33
2003	3,733,123.41	60.00	62,218.03	43.90	2,731,308.49
2004	4,525,354.79	60.00	75,421.74	44.64	3,367,161.90
2005	7,328,905.94	60.00	122,147.06	45.40	5,544,983.66
2006	13,253,696.79	60.00	220,892.47	46.15	10,194,465.99
2007	6,575,899.85	60.00	109,597.10	46.91	5,141,103.64
2008	13,674,695.56	60.00	227,909.04	47.67	10,865,046.39
2009	8,388,267.47	60.00	139,802.89	48.44	6,772,057.14
2010	6,153,185.44	60.00	102,551.94	49.21	5,046,570.40
2011	6,512,838.31	60.00	108,546.09	49.99	5,425,720.53
2012	6,325,709.08	60.00	105,427.30	50.76	5,351,974.81
2013	8,003,813.93	60.00	133,395.41	51.55	6,876,194.38
2014	12,035,519.17	60.00	200,589.74	52.33	10,497,586.93
2015	4,453,053.91	60.00	74,216.73	53.12	3,942,732.68
2016	8,430,410.63	60.00	140,505.27	53.92	7,575,773.73
2017	7,251,342.37	60.00	120,854.35	54.72	6,612,797.75
2018	10,666,737.20	60.00	177,776.96	55.52	9,870,122.98
2019	19,662,513.55	60.00	327,704.89	56.33	18,458,281.38
2020	8,472,172.58	60.00	141,201.30	57.14	8,067,594.26

FE 2023 Study - West Penn Power
Electric Division
362.10 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	12,424,819.86	60.00	207,078.01	57.95	12,000,083.08
2022	12,195,249.69	60.00	203,251.89	58.77	11,944,355.87
2023	12,439,202.88	60.00	207,317.73	59.59	12,353,716.45
Total	390,774,682.12	59.46	6,512,789.73	41.83	272,445,616.38

Composite Average Remaining Life ... 41.83 Years

FE 2023 Study - West Penn Power
Electric Division
362.15 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	581,249.06	60.00	9,687.38	37.39	362,201.95
1995	91,040.41	60.00	1,517.32	38.09	57,798.23
1996	476,777.43	60.00	7,946.20	38.80	308,312.46
1997	3,302.66	60.00	55.04	39.51	2,175.01
1998	16,932,855.86	60.00	282,211.11	40.23	11,353,847.69
1999	5,771.17	60.00	96.19	40.96	3,939.40
2000	538,196.65	60.00	8,969.84	41.69	373,912.62
2001	4,333.99	60.00	72.23	42.42	3,064.02
2007	16,885.50	60.00	281.42	46.91	13,201.25
2013	51,334.66	60.00	855.57	51.55	44,102.36
2014	2,090.04	60.00	34.83	52.33	1,822.97
2015	0.86	60.00	0.01	53.12	0.76
2016	8,307.89	60.00	138.46	53.92	7,465.67
2017	425.11	60.00	7.09	54.72	387.68
2018	43,911.94	60.00	731.86	55.52	40,632.50
2019	188.51	60.00	3.14	56.33	176.96
2020	124,357.37	60.00	2,072.60	57.14	118,418.83
2021	363.28	60.00	6.05	57.95	350.86
2022	104.37	60.00	1.74	58.77	102.22
2023	15,559.07	60.00	259.31	59.59	15,452.14
Total	18,897,055.83	60.00	314,947.40	40.35	12,707,365.59

Composite Average Remaining Life ... 40.35 Years

FE 2023 Study - West Penn Power
Electric Division
362.40 Station Equipment - SCADA
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 35 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1931	121.03	0.00	0.00	0.00	0.00
1969	996.76	35.00	28.48	2.72	77.60
1972	1,452.75	35.00	41.51	3.37	139.97
1974	3,164.64	35.00	90.42	3.82	345.43
1975	2,131.44	35.00	60.90	4.06	247.01
1976	11,337.18	35.00	323.92	4.29	1,389.59
1977	12,902.83	35.00	368.65	4.53	1,670.30
1978	9,154.85	35.00	261.57	4.78	1,250.26
1979	1,613.17	35.00	46.09	5.04	232.24
1980	200.00	35.00	5.71	5.31	30.34
1981	200.00	35.00	5.71	5.59	31.97
1982	200.00	35.00	5.71	5.90	33.69
1983	9,501.56	35.00	271.47	6.21	1,687.14
1984	43,336.22	35.00	1,238.17	6.55	8,114.70
1985	24,442.88	35.00	698.37	6.91	4,829.17
1986	116,102.96	35.00	3,317.21	7.30	24,214.10
1987	80,564.37	35.00	2,301.83	7.71	17,743.24
1988	67,496.13	35.00	1,928.45	8.14	15,701.20
1989	124,314.43	35.00	3,551.83	8.60	30,543.37
1990	74,442.26	35.00	2,126.91	9.08	19,318.99
1991	100,676.66	35.00	2,876.46	9.59	27,589.72
1992	260,476.55	35.00	7,442.16	10.12	75,344.55
1993	499,026.15	35.00	14,257.84	10.68	152,270.65
1994	1,054,912.61	35.00	30,140.24	11.26	339,317.91
1995	199,784.16	35.00	5,708.10	11.86	67,684.36
1996	297,588.69	35.00	8,502.50	12.48	106,080.05
1997	1,064.14	35.00	30.40	13.12	398.79

FE 2023 Study - West Penn Power
Electric Division
362.40 Station Equipment - SCADA

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *35* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1999	16,618.73	35.00	474.82	14.45	6,861.83
2000	13,474.94	35.00	385.00	15.14	5,830.59
2002	397,801.90	35.00	11,365.73	16.58	188,422.79
2003	140,439.14	35.00	4,012.53	17.32	69,482.65
2004	453,549.74	35.00	12,958.51	18.07	234,167.61
2005	166,246.20	35.00	4,749.87	18.84	89,480.50
2006	225,999.95	35.00	6,457.12	19.62	126,687.44
2007	126,432.75	35.00	3,612.35	20.41	73,742.82
2008	191,326.89	35.00	5,466.46	21.22	116,003.22
2010	154,524.49	35.00	4,414.97	22.87	100,968.97
2014	819.98	35.00	23.43	26.30	616.20
2020	39.60	35.00	1.13	31.72	35.89
2021	11,334.00	35.00	323.83	32.65	10,573.60
2022	1,272.00	35.00	36.34	33.59	1,220.65
Total	4,897,084.73	34.15	139,912.71	13.73	1,920,381.10

Composite Average Remaining Life ... *13.73 Years*

FE 2023 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1926	121.92	70.00	1.74	9.10	15.84
1927	421.90	70.00	6.03	9.40	56.66
1933	224.56	70.00	3.21	11.28	36.17
1935	342.33	70.00	4.89	11.94	58.38
1938	618.18	70.00	8.83	12.97	114.56
1939	1,420.30	70.00	20.29	13.33	270.48
1940	17,717.40	70.00	253.11	13.69	3,466.14
1941	28,237.94	70.00	403.40	14.07	5,674.32
1942	7,458.79	70.00	106.55	14.44	1,539.12
1943	24,427.67	70.00	348.97	14.83	5,175.42
1944	4,434.32	70.00	63.35	15.22	964.43
1945	11,720.30	70.00	167.43	15.63	2,616.23
1946	25,401.41	70.00	362.88	16.03	5,818.60
1947	58,137.65	70.00	830.54	16.45	13,664.05
1948	82,710.90	70.00	1,181.58	16.88	19,941.73
1949	163,958.78	70.00	2,342.26	17.31	40,547.04
1950	322,557.62	70.00	4,607.96	17.75	81,803.32
1951	267,548.63	70.00	3,822.12	18.20	69,570.31
1952	332,066.23	70.00	4,743.79	18.66	88,527.16
1953	531,599.08	70.00	7,594.26	19.13	145,262.98
1954	736,142.77	70.00	10,516.30	19.60	206,167.78
1955	607,383.91	70.00	8,676.89	20.09	174,301.65
1956	1,335,356.01	70.00	19,076.47	20.58	392,622.18
1957	303,463.61	70.00	4,335.19	21.08	91,395.06
1958	510,212.19	70.00	7,288.73	21.59	157,367.64
1959	570,560.33	70.00	8,150.84	22.11	180,218.41
1960	597,655.81	70.00	8,537.92	22.64	193,263.83

FE 2023 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1961	460,863.97	70.00	6,583.76	23.17	152,561.52
1962	517,997.03	70.00	7,399.94	23.72	175,489.68
1963	594,383.93	70.00	8,491.18	24.27	206,062.84
1964	652,725.16	70.00	9,324.63	24.83	231,505.80
1965	744,435.82	70.00	10,634.77	25.39	270,061.12
1966	701,075.54	70.00	10,015.34	25.97	260,124.39
1967	625,330.94	70.00	8,933.28	26.56	237,231.24
1968	831,571.55	70.00	11,879.57	27.15	322,530.34
1969	703,755.56	70.00	10,053.63	27.75	278,983.70
1970	864,723.40	70.00	12,353.17	28.36	350,323.40
1971	972,257.18	70.00	13,889.36	28.97	402,436.78
1972	987,128.36	70.00	14,101.80	29.60	417,366.40
1973	1,262,254.41	70.00	18,032.17	30.23	545,112.77
1974	1,124,762.98	70.00	16,068.01	30.87	495,980.95
1975	1,643,844.49	70.00	23,483.44	31.52	740,089.77
1976	1,605,344.67	70.00	22,933.45	32.17	737,723.23
1977	1,503,463.48	70.00	21,478.00	32.83	705,119.43
1978	2,226,235.83	70.00	31,803.30	33.50	1,065,318.41
1979	2,174,353.21	70.00	31,062.12	34.17	1,061,408.33
1980	3,337,737.32	70.00	47,681.86	34.85	1,661,914.87
1981	3,062,915.60	70.00	43,755.84	35.54	1,555,157.98
1982	2,867,958.39	70.00	40,970.75	36.24	1,484,721.33
1983	3,328,505.23	70.00	47,549.97	36.94	1,756,484.38
1984	3,684,970.17	70.00	52,642.32	37.65	1,981,951.11
1985	3,493,043.46	70.00	49,900.51	38.36	1,914,379.31
1986	3,501,672.95	70.00	50,023.79	39.08	1,955,130.19
1987	3,765,714.40	70.00	53,795.80	39.81	2,141,800.87

FE 2023 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1988	4,002,158.19	70.00	57,173.57	40.55	2,318,184.10
1989	4,878,390.42	70.00	69,691.14	41.29	2,877,397.80
1990	6,361,680.69	70.00	90,880.96	42.03	3,820,018.63
1991	7,505,388.43	70.00	107,219.61	42.79	4,587,522.33
1992	7,827,591.18	70.00	111,822.49	43.54	4,869,164.76
1993	6,098,554.20	70.00	87,122.02	44.31	3,860,046.82
1994	5,938,613.89	70.00	84,837.16	45.08	3,824,229.76
1995	11,191,964.92	70.00	159,884.87	45.85	7,330,953.56
1996	9,370,823.84	70.00	133,868.63	46.63	6,242,740.73
1997	15,381,067.99	70.00	219,729.07	47.42	10,419,291.22
1998	3,006,708.12	70.00	42,952.88	48.21	2,070,810.96
1999	14,431,646.26	70.00	206,165.93	49.01	10,103,719.35
2000	12,304,328.45	70.00	175,775.74	49.81	8,755,174.20
2001	4,952,683.15	70.00	70,752.47	50.62	3,581,318.08
2002	6,206,830.04	70.00	88,668.81	51.43	4,560,166.69
2003	5,009,960.81	70.00	71,570.72	52.25	3,739,412.89
2004	3,857,058.57	70.00	55,100.72	53.07	2,924,178.64
2005	5,768,499.91	70.00	82,406.97	53.90	4,441,557.61
2006	4,442,597.40	70.00	63,465.54	54.73	3,473,449.78
2007	6,797,811.18	70.00	97,111.38	55.57	5,396,064.40
2008	19,314,423.40	70.00	275,919.74	56.41	15,564,260.62
2009	1,779,584.23	70.00	25,422.58	57.25	1,455,549.73
2010	11,234,633.07	70.00	160,494.42	58.11	9,325,684.47
2011	18,252,247.75	70.00	260,745.84	58.96	15,373,773.80
2012	7,807,251.72	70.00	111,531.93	59.82	6,671,962.95
2013	6,338,439.85	70.00	90,548.95	60.68	5,494,945.49
2014	8,722,840.39	70.00	124,611.74	61.55	7,670,134.18

FE 2023 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	6,921,113.83	70.00	98,872.84	62.43	6,172,217.01
2016	8,558,032.93	70.00	122,257.35	63.30	7,739,104.15
2017	12,127,937.02	70.00	173,255.87	64.18	11,120,107.77
2018	14,472,832.20	70.00	206,754.30	65.07	13,452,934.84
2019	19,522,970.16	70.00	278,898.98	65.96	18,395,131.87
2020	17,466,055.55	70.00	249,514.55	66.85	16,679,606.54
2021	16,025,721.15	70.00	228,938.38	67.74	15,509,092.32
2022	20,749,153.00	70.00	296,415.84	68.64	20,347,194.73
2023	28,678,032.61	70.00	409,685.30	69.55	28,492,294.57
Total	417,086,552.07	70.00	5,958,366.58	54.32	323,646,826.98

Composite Average Remaining Life ... 54.32 Years

FE 2023 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1912	377.17	70.00	5.39	5.01	26.99
1915	20,950.84	70.00	299.30	5.88	1,759.20
1920	306.04	70.00	4.37	7.33	32.05
1923	11,943.60	70.00	170.62	8.21	1,401.24
1924	17,578.98	70.00	251.13	8.50	2,134.94
1925	13,401.07	70.00	191.44	8.80	1,685.05
1926	5,899.65	70.00	84.28	9.10	766.65
1927	43,838.87	70.00	626.27	9.40	5,886.98
1928	22,021.61	70.00	314.59	9.70	3,052.01
1929	23,222.12	70.00	331.74	10.01	3,320.74
1930	40,755.57	70.00	582.22	10.32	6,010.54
1931	31,581.86	70.00	451.17	10.63	4,797.64
1932	24,130.84	70.00	344.73	10.95	3,776.30
1933	12,836.81	70.00	183.38	11.28	2,067.68
1934	12,067.46	70.00	172.39	11.60	2,000.56
1935	9,492.54	70.00	135.61	11.94	1,618.72
1936	20,854.40	70.00	297.92	12.28	3,657.44
1937	28,344.24	70.00	404.92	12.62	5,111.27
1938	578.59	70.00	8.27	12.97	107.22
1939	8,180.13	70.00	116.86	13.33	1,557.84
1940	7,082.97	70.00	101.19	13.69	1,385.67
1941	52,614.96	70.00	751.64	14.07	10,572.80
1942	7,934.56	70.00	113.35	14.44	1,637.30
1943	56,097.88	70.00	801.40	14.83	11,885.29
1944	56,682.57	70.00	809.75	15.22	12,327.96
1945	34,919.06	70.00	498.84	15.63	7,794.72
1946	20,866.12	70.00	298.09	16.03	4,779.72

FE 2023 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1947	33,095.90	70.00	472.80	16.45	7,778.51
1948	16,810.36	70.00	240.15	16.88	4,053.00
1949	97,177.99	70.00	1,388.25	17.31	24,032.14
1950	241,798.54	70.00	3,454.26	17.75	61,322.14
1951	76,849.02	70.00	1,097.84	18.20	19,982.95
1952	146,162.77	70.00	2,088.04	18.66	38,966.25
1953	59,499.62	70.00	849.99	19.13	16,258.67
1954	117,618.31	70.00	1,680.26	19.60	32,940.77
1955	24,886.25	70.00	355.52	20.09	7,141.64
1956	11,216,020.62	70.00	160,228.52	20.58	3,297,741.16
1957	353,887.10	70.00	5,055.52	21.08	106,581.25
1958	446,145.59	70.00	6,373.49	21.59	137,607.21
1959	334,184.80	70.00	4,774.06	22.11	105,556.33
1960	521,116.24	70.00	7,444.50	22.64	168,513.24
1961	277,473.12	70.00	3,963.89	23.17	91,852.96
1962	317,834.93	70.00	4,540.49	23.72	107,677.74
1963	166,040.48	70.00	2,372.00	24.27	57,563.42
1964	409,205.95	70.00	5,845.79	24.83	145,135.44
1965	349,656.04	70.00	4,995.08	25.39	126,845.72
1966	385,509.37	70.00	5,507.26	25.97	143,037.92
1967	259,917.02	70.00	3,713.09	26.56	98,604.49
1968	324,280.97	70.00	4,632.58	27.15	125,774.45
1969	197,439.20	70.00	2,820.55	27.75	78,269.11
1970	492,754.18	70.00	7,039.33	28.36	199,628.37
1971	198,147.29	70.00	2,830.67	28.97	82,017.14
1972	333,594.14	70.00	4,765.62	29.60	141,046.48
1973	305,987.00	70.00	4,371.23	30.23	132,142.47

FE 2023 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1974	293,582.08	70.00	4,194.02	30.87	129,459.38
1975	354,362.90	70.00	5,062.32	31.52	159,540.86
1976	215,938.88	70.00	3,084.83	32.17	99,232.97
1977	281,710.43	70.00	4,024.43	32.83	132,121.27
1978	509,936.93	70.00	7,284.80	33.50	244,019.61
1979	932,002.34	70.00	13,314.29	34.17	454,956.01
1980	1,449,509.00	70.00	20,707.23	34.85	721,734.61
1981	455,851.64	70.00	6,512.15	35.54	231,453.10
1982	861,604.06	70.00	12,308.60	36.24	446,046.19
1983	1,287,122.90	70.00	18,387.43	36.94	679,227.19
1984	980,295.94	70.00	14,004.20	37.65	527,249.49
1985	919,324.06	70.00	13,133.17	38.36	503,839.98
1986	1,076,790.45	70.00	15,382.69	39.08	601,217.06
1987	962,017.34	70.00	13,743.08	39.81	547,160.34
1988	1,272,525.54	70.00	18,178.90	40.55	737,089.42
1989	1,165,266.71	70.00	16,646.63	41.29	687,303.72
1990	2,956,825.13	70.00	42,240.27	42.03	1,775,494.18
1991	2,982,994.46	70.00	42,614.12	42.79	1,823,297.20
1992	2,000,654.03	70.00	28,580.71	43.54	1,244,509.82
1993	1,449,334.31	70.00	20,704.73	44.31	917,348.30
1994	1,727,585.34	70.00	24,679.74	45.08	1,112,495.84
1995	3,471,207.54	70.00	49,588.57	45.85	2,273,708.10
1996	3,339,050.91	70.00	47,700.63	46.63	2,224,439.33
1997	1,913,168.33	70.00	27,330.92	47.42	1,295,999.60
1998	223,114.70	70.00	3,187.35	48.21	153,665.85
1999	40,868.66	70.00	583.84	49.01	28,612.50
2000	3,149.71	70.00	45.00	49.81	2,241.18

FE 2023 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	32,262.95	70.00	460.90	50.62	23,329.55
2002	33.46	70.00	0.48	51.43	24.58
2003	23,317.12	70.00	333.10	52.25	17,403.80
2004	240,254.80	70.00	3,432.20	53.07	182,146.04
2006	45,342.63	70.00	647.75	54.73	35,451.19
2007	178,149.77	70.00	2,544.99	55.57	141,414.29
2008	887,191.73	70.00	12,674.14	56.41	714,931.17
2009	809,118.73	70.00	11,558.81	57.25	661,790.84
2010	3,171,085.33	70.00	45,301.12	58.11	2,632,265.87
2011	1,678,238.40	70.00	23,974.78	58.96	1,413,571.52
2012	1,831,747.27	70.00	26,167.76	59.82	1,565,384.38
2013	51.86	70.00	0.74	60.68	44.96
2014	133,319.92	70.00	1,904.57	61.55	117,230.35
2015	96,563.30	70.00	1,379.47	62.43	86,114.70
2016	821,526.19	70.00	11,736.06	63.30	742,913.33
2017	913,954.12	70.00	13,056.46	64.18	838,004.71
2018	1,334,283.07	70.00	19,061.15	65.07	1,240,256.43
2019	3,520,318.47	70.00	50,290.16	65.96	3,316,950.34
2020	2,521,929.77	70.00	36,027.49	66.85	2,408,374.13
2021	1,320,477.34	70.00	18,863.92	67.74	1,277,908.48
2022	1,024,004.80	70.00	14,628.61	68.64	1,004,167.50
2023	1,664,101.41	70.00	23,772.83	69.55	1,653,323.58
Total	73,660,720.07	70.00	1,052,293.75	43.23	45,485,690.35

Composite Average Remaining Life ... 43.23 Years

FE 2023 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1920	105.58	60.00	1.76	5.48	9.63
1923	1,030.67	60.00	17.18	6.37	109.36
1924	19,180.91	60.00	319.68	6.68	2,133.91
1925	28,988.69	60.00	483.14	6.98	3,373.02
1926	35,786.17	60.00	596.42	7.30	4,352.84
1927	61,523.51	60.00	1,025.37	7.61	7,802.89
1928	118,461.27	60.00	1,974.32	7.93	15,650.14
1929	131,551.34	60.00	2,192.48	8.25	18,085.66
1930	136,190.35	60.00	2,269.79	8.58	19,468.13
1931	140,124.13	60.00	2,335.36	8.91	20,797.75
1932	78,516.02	60.00	1,308.57	9.24	12,094.51
1933	62,901.09	60.00	1,048.33	9.58	10,040.88
1934	35,634.81	60.00	593.90	9.92	5,890.65
1935	49,564.26	60.00	826.05	10.26	8,478.66
1936	183,393.68	60.00	3,056.50	10.61	32,444.70
1937	10,441.26	60.00	174.02	10.97	1,908.63
1938	49,507.52	60.00	825.11	11.33	9,346.76
1939	274,704.70	60.00	4,578.32	11.69	53,515.23
1940	153,188.39	60.00	2,553.09	12.05	30,776.81
1941	304,818.31	60.00	5,080.20	12.43	63,123.83
1942	101,169.95	60.00	1,686.13	12.80	21,584.70
1943	44,185.05	60.00	736.40	13.18	9,706.16
1944	20,632.91	60.00	343.88	13.57	4,664.86
1945	45,982.74	60.00	766.36	13.95	10,693.50
1946	154,284.44	60.00	2,571.36	14.35	36,890.03
1947	317,485.29	60.00	5,291.32	14.74	78,017.32
1948	358,100.92	60.00	5,968.23	15.15	90,402.50

FE 2023 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1949	488,642.57	60.00	8,143.88	15.55	126,674.30
1950	614,074.99	60.00	10,234.38	15.97	163,412.82
1951	673,203.75	60.00	11,219.84	16.38	183,825.75
1952	546,786.41	60.00	9,112.93	16.81	153,152.23
1953	438,775.39	60.00	7,312.78	17.23	126,022.42
1954	652,937.17	60.00	10,882.07	17.67	192,235.31
1955	455,124.10	60.00	7,585.25	18.10	137,313.62
1956	476,948.35	60.00	7,948.98	18.54	147,413.59
1957	436,961.30	60.00	7,282.54	18.99	138,316.75
1958	728,058.87	60.00	12,134.07	19.45	235,961.15
1959	602,757.11	60.00	10,045.75	19.90	199,957.62
1960	657,561.67	60.00	10,959.14	20.37	223,219.07
1961	660,976.37	60.00	11,016.05	20.84	229,551.23
1962	672,308.05	60.00	11,204.91	21.31	238,808.63
1963	559,946.25	60.00	9,332.25	21.79	203,377.15
1964	628,199.39	60.00	10,469.78	22.28	233,259.28
1965	716,594.76	60.00	11,943.01	22.77	271,955.65
1966	770,938.39	60.00	12,848.72	23.27	298,965.00
1967	657,941.69	60.00	10,965.48	23.77	260,666.60
1968	993,238.68	60.00	16,553.65	24.28	401,914.39
1969	807,214.03	60.00	13,453.30	24.79	333,571.91
1970	1,042,343.18	60.00	17,372.04	25.32	439,785.05
1971	1,166,142.46	60.00	19,435.32	25.84	502,249.86
1972	1,215,031.16	60.00	20,250.12	26.37	534,070.33
1973	1,315,010.80	60.00	21,916.41	26.91	589,816.20
1974	1,123,935.91	60.00	18,731.89	27.45	514,279.03
1975	1,582,286.61	60.00	26,370.92	28.01	738,519.88

FE 2023 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1976	1,488,718.98	60.00	24,811.49	28.56	708,640.16
1977	1,427,667.79	60.00	23,793.99	29.12	692,936.24
1978	2,610,242.01	60.00	43,503.17	29.69	1,291,551.00
1979	2,323,104.32	60.00	38,717.64	30.26	1,171,665.87
1980	4,119,645.90	60.00	68,659.40	30.84	2,117,382.50
1981	3,642,722.78	60.00	60,710.84	31.42	1,907,758.65
1982	2,906,715.44	60.00	48,444.29	32.01	1,550,879.87
1983	2,969,042.04	60.00	49,483.05	32.61	1,613,583.76
1984	3,182,959.43	60.00	53,048.27	33.21	1,761,658.14
1985	3,535,401.77	60.00	58,922.19	33.81	1,992,439.72
1986	3,124,405.27	60.00	52,072.39	34.42	1,792,563.28
1987	3,006,696.98	60.00	50,110.62	35.04	1,755,939.57
1988	3,269,808.18	60.00	54,495.72	35.66	1,943,465.43
1989	4,210,576.62	60.00	70,174.88	36.29	2,546,556.55
1990	5,085,082.06	60.00	84,749.68	36.92	3,128,849.87
1991	5,340,694.30	60.00	89,009.80	37.55	3,342,704.26
1992	6,031,954.50	60.00	100,530.58	38.19	3,839,548.48
1993	4,142,778.62	60.00	69,044.94	38.84	2,681,530.85
1994	5,302,048.27	60.00	88,365.72	39.49	3,489,200.27
1995	7,159,644.08	60.00	119,325.03	40.14	4,789,469.79
1996	6,344,855.85	60.00	105,745.50	40.79	4,313,707.42
1997	8,259,126.39	60.00	137,649.37	41.45	5,705,990.28
1998	4,290,823.34	60.00	71,512.30	42.11	3,011,740.09
1999	11,394,429.18	60.00	189,903.38	42.78	8,124,403.83
2000	15,478,308.95	60.00	257,966.69	43.45	11,209,014.91
2001	4,238,282.33	60.00	70,636.64	44.12	3,116,754.74
2002	4,065,633.81	60.00	67,759.22	44.80	3,035,507.35

FE 2023 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	2,174,833.47	60.00	36,246.50	45.48	1,648,366.46
2004	983,795.10	60.00	16,396.26	46.16	756,788.39
2005	5,273,078.95	60.00	87,882.90	46.84	4,116,400.26
2006	1,144,299.53	60.00	19,071.28	47.53	906,368.24
2007	3,792,102.60	60.00	63,200.45	48.21	3,047,044.02
2008	10,237,758.55	60.00	170,625.92	48.90	8,344,166.86
2009	2,050,848.65	60.00	34,180.13	49.60	1,695,219.20
2010	10,430,963.29	60.00	173,845.93	50.29	8,742,987.85
2011	12,723,831.21	60.00	212,059.64	50.99	10,813,077.77
2012	18,324,052.25	60.00	305,394.80	51.69	15,786,659.88
2013	18,721,466.59	60.00	312,018.24	52.40	16,348,927.28
2014	11,556,872.78	60.00	192,610.72	53.10	10,228,523.43
2015	13,175,909.98	60.00	219,594.14	53.82	11,817,664.99
2016	25,272,688.81	60.00	421,203.11	54.53	22,967,917.47
2017	25,396,262.11	60.00	423,262.63	55.25	23,384,228.67
2018	30,596,463.64	60.00	509,930.93	55.97	28,540,358.14
2019	41,730,299.08	60.00	695,491.17	56.69	39,430,109.30
2020	32,259,357.89	60.00	537,645.28	57.42	30,872,567.79
2021	35,493,980.06	60.00	591,554.58	58.15	34,401,425.03
2022	31,653,192.51	60.00	527,542.73	58.89	31,066,580.78
2023	29,750,303.01	60.00	495,828.53	59.63	29,566,062.70
Total	515,295,122.62	60.00	8,588,081.40	49.55	425,506,545.30

Composite Average Remaining Life ... 49.55 Years

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And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1915	14,533.55	60.00	242.22	3.98	965.19
1916	30,918.13	60.00	515.29	4.28	2,206.06
1917	13,367.34	60.00	222.78	4.58	1,019.92
1918	12,506.96	60.00	208.45	4.88	1,017.00
1919	25,756.10	60.00	429.26	5.17	2,219.75
1920	24,353.63	60.00	405.89	5.48	2,222.31
1921	92,081.88	60.00	1,534.67	5.77	8,850.80
1922	131,658.71	60.00	2,194.27	6.06	13,307.32
1923	86,926.09	60.00	1,448.74	6.37	9,223.67
1924	45,584.18	60.00	759.72	6.68	5,071.32
1925	65,248.53	60.00	1,087.45	6.98	7,592.09
1926	82,525.33	60.00	1,375.39	7.30	10,037.95
1927	101,723.18	60.00	1,695.35	7.61	12,901.32
1928	106,256.86	60.00	1,770.91	7.93	14,037.79
1929	85,478.82	60.00	1,424.62	8.25	11,751.61
1930	100,724.12	60.00	1,678.70	8.58	14,398.31
1931	125,124.49	60.00	2,085.37	8.91	18,571.45
1932	66,925.78	60.00	1,115.41	9.24	10,309.17
1933	40,517.62	60.00	675.28	9.58	6,467.82
1934	27,670.39	60.00	461.16	9.92	4,574.09
1935	47,953.76	60.00	799.21	10.26	8,203.16
1936	153,081.01	60.00	2,551.30	10.61	27,082.00
1937	58,835.45	60.00	980.57	10.97	10,754.92
1938	756.89	60.00	12.61	11.33	142.90
1939	4,401.70	60.00	73.36	11.69	857.50
1940	10,044.42	60.00	167.40	12.05	2,018.01
1941	41,966.89	60.00	699.43	12.43	8,690.79

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Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1942	1,731.79	60.00	28.86	12.80	369.48
1943	49,819.05	60.00	830.30	13.18	10,943.78
1944	15,442.63	60.00	257.37	13.57	3,491.40
1945	14,364.13	60.00	239.40	13.95	3,340.45
1946	15,131.57	60.00	252.19	14.35	3,618.02
1947	9,670.44	60.00	161.17	14.74	2,376.37
1948	28,737.28	60.00	478.95	15.15	7,254.72
1949	180,639.23	60.00	3,010.59	15.55	46,828.40
1950	219,067.96	60.00	3,651.06	15.97	58,296.65
1951	123,196.27	60.00	2,053.23	16.38	33,640.11
1952	143,150.97	60.00	2,385.80	16.81	40,095.90
1953	55,900.84	60.00	931.66	17.23	16,055.50
1954	205,972.43	60.00	3,432.81	17.67	60,641.63
1955	101,572.66	60.00	1,692.84	18.10	30,645.07
1956	77,913.83	60.00	1,298.54	18.54	24,081.34
1957	170,302.26	60.00	2,838.31	18.99	53,907.87
1958	200,074.90	60.00	3,334.52	19.45	64,843.53
1959	162,908.00	60.00	2,715.08	19.90	54,042.82
1960	340,287.99	60.00	5,671.35	20.37	115,515.81
1961	221,370.06	60.00	3,689.43	20.84	76,879.86
1962	490,137.02	60.00	8,168.79	21.31	174,100.18
1963	154,261.98	60.00	2,570.98	21.79	56,029.24
1964	328,299.21	60.00	5,471.54	22.28	121,902.12
1965	307,098.78	60.00	5,118.21	22.77	116,547.39
1966	316,704.66	60.00	5,278.31	23.27	122,816.05
1967	243,453.69	60.00	4,057.48	23.77	96,452.69
1968	414,625.07	60.00	6,910.28	24.28	167,778.18

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Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	154,559.84	60.00	2,575.95	24.79	63,870.07
1970	462,868.75	60.00	7,714.33	25.32	195,293.41
1971	260,650.54	60.00	4,344.09	25.84	112,260.47
1972	431,712.95	60.00	7,195.07	26.37	189,760.63
1973	429,602.13	60.00	7,159.89	26.91	192,687.62
1974	290,177.16	60.00	4,836.19	27.45	132,776.28
1975	476,678.37	60.00	7,944.48	28.01	222,485.89
1976	328,228.82	60.00	5,470.37	28.56	156,239.11
1977	304,992.88	60.00	5,083.11	29.12	148,032.07
1978	840,165.29	60.00	14,002.48	29.69	415,714.83
1979	1,085,857.38	60.00	18,097.26	30.26	547,656.01
1980	1,819,797.52	60.00	30,329.36	30.84	935,324.91
1981	1,085,574.45	60.00	18,092.55	31.42	568,534.63
1982	1,393,705.53	60.00	23,227.96	32.01	743,612.47
1983	952,308.08	60.00	15,871.49	32.61	517,550.39
1984	1,059,206.33	60.00	17,653.09	33.21	586,234.13
1985	918,371.76	60.00	15,305.89	33.81	517,565.04
1986	1,045,949.54	60.00	17,432.15	34.42	600,092.04
1987	1,332,946.33	60.00	22,215.33	35.04	778,453.31
1988	1,170,642.38	60.00	19,510.32	35.66	695,790.97
1989	931,690.40	60.00	15,527.86	36.29	563,486.31
1990	2,553,506.01	60.00	42,557.59	36.92	1,571,171.68
1991	1,766,425.29	60.00	29,439.84	37.55	1,105,593.58
1992	1,303,841.59	60.00	21,730.26	38.19	829,940.44
1993	596,810.48	60.00	9,946.64	38.84	386,302.49
1994	1,011,855.24	60.00	16,863.92	39.49	665,887.10
1995	2,130,135.46	60.00	35,501.55	40.14	1,424,961.82

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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	2,045,749.93	60.00	34,095.15	40.79	1,390,853.77
1997	1,221,810.18	60.00	20,363.10	41.45	844,113.13
1998	143,690.39	60.00	2,394.79	42.11	100,856.66
1999	319,671.65	60.00	5,327.75	42.78	227,930.82
2000	5.41	60.00	0.09	43.45	3.92
2001	26,542.94	60.00	442.37	44.12	19,519.19
2002	7.86	60.00	0.13	44.80	5.87
2003	34,615.69	60.00	576.92	45.48	26,236.19
2004	446,749.41	60.00	7,445.68	46.16	343,663.81
2005	66,586.84	60.00	1,109.76	46.84	51,980.65
2006	102,019.19	60.00	1,700.29	47.53	80,806.60
2007	230,152.38	60.00	3,835.80	48.21	184,932.87
2008	1,495,777.61	60.00	24,929.13	48.90	1,219,116.27
2009	1,346,265.73	60.00	22,437.32	49.60	1,112,815.18
2010	1,179,350.43	60.00	19,655.45	50.29	988,503.76
2011	2,189,196.12	60.00	36,485.88	50.99	1,860,441.84
2012	8,532.49	60.00	142.21	51.69	7,350.97
2013	292,185.68	60.00	4,869.66	52.40	255,157.49
2014	86,727.28	60.00	1,445.43	53.10	76,758.83
2015	78,537.32	60.00	1,308.93	53.82	70,441.26
2016	1,606,721.09	60.00	26,778.15	54.53	1,460,194.35
2017	1,554,706.53	60.00	25,911.26	55.25	1,431,534.01
2018	2,282,045.41	60.00	38,033.33	55.97	2,128,690.23
2019	3,495,760.56	60.00	58,261.52	56.69	3,303,072.92
2020	1,855,854.51	60.00	30,930.29	57.42	1,776,073.61
2021	1,081,700.61	60.00	18,027.99	58.15	1,048,404.33
2022	893,210.82	60.00	14,886.55	58.89	876,657.42

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Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	1,077,151.09	60.00	17,952.16	59.63	1,070,480.41
Total	57,488,342.16	60.00	958,120.00	40.29	38,600,862.82

Composite Average Remaining Life ... 40.29 Years

FE 2023 Study - West Penn Power
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365.20 Overhead Conductors - Clearing and Damages
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And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1903	9,192.67	0.00	0.00	0.00	0.00
1905	1,881.26	0.00	0.00	0.00	0.00
1906	20,644.15	0.00	0.00	0.00	0.00
1907	7,316.43	0.00	0.00	0.00	0.00
1908	2,439.53	0.00	0.00	0.00	0.00
1909	378.53	0.00	0.00	0.00	0.00
1910	6,045.59	75.00	80.61	0.50	40.30
1911	1,847.64	75.00	24.64	0.62	15.25
1912	105,906.20	75.00	1,412.08	0.77	1,080.42
1913	30,254.10	75.00	403.39	0.84	339.74
1914	28,670.72	75.00	382.27	1.08	412.66
1915	28,048.27	75.00	373.98	1.30	485.22
1916	20,686.63	75.00	275.82	1.44	396.40
1917	16,933.50	75.00	225.78	1.67	377.42
1918	13,615.19	75.00	181.53	1.91	345.88
1919	6,194.40	75.00	82.59	2.08	172.14
1921	41,791.42	75.00	557.22	2.57	1,432.38
1922	22,846.34	75.00	304.62	2.78	846.22
1923	99,000.79	75.00	1,320.00	3.03	3,997.99
1924	104,895.78	75.00	1,398.60	3.29	4,594.88
1925	94,544.77	75.00	1,260.59	3.51	4,429.00
1926	119,051.39	75.00	1,587.34	3.77	5,989.44
1927	76,998.43	75.00	1,026.64	4.04	4,145.79
1928	54,586.14	75.00	727.81	4.28	3,115.45
1929	75,229.10	75.00	1,003.05	4.55	4,561.24
1930	70,411.01	75.00	938.81	4.82	4,523.97
1931	52,700.51	75.00	702.67	5.07	3,564.26

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Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1932	87,096.95	75.00	1,161.29	5.35	6,208.61
1933	25,589.45	75.00	341.19	5.63	1,919.31
1934	18,596.78	75.00	247.96	5.89	1,460.92
1935	21,783.43	75.00	290.44	6.18	1,793.94
1936	66,003.95	75.00	880.05	6.47	5,692.12
1937	42,576.55	75.00	567.68	6.75	3,833.94
1938	134,728.20	75.00	1,796.37	7.06	12,676.26
1939	220,288.10	75.00	2,937.16	7.37	21,643.63
1940	146,513.69	75.00	1,953.51	7.68	15,009.41
1941	207,528.26	75.00	2,767.03	8.01	22,177.38
1942	85,067.32	75.00	1,134.23	8.36	9,480.86
1943	76,522.00	75.00	1,020.29	8.71	8,890.31
1944	49,537.33	75.00	660.49	9.09	6,000.89
1945	125,482.05	75.00	1,673.09	9.47	15,849.36
1946	145,689.90	75.00	1,942.52	9.88	19,191.47
1947	253,981.58	75.00	3,386.40	10.30	34,892.29
1948	352,165.16	75.00	4,695.51	10.75	50,459.40
1949	400,947.50	75.00	5,345.94	11.21	59,952.27
1950	508,813.36	75.00	6,784.15	11.70	79,374.02
1951	372,353.75	75.00	4,964.69	12.21	60,597.46
1952	291,462.42	75.00	3,886.15	12.74	49,511.80
1953	199,545.77	75.00	2,660.60	13.29	35,362.49
1954	231,436.93	75.00	3,085.81	13.86	42,773.78
1955	166,251.98	75.00	2,216.68	14.46	32,052.38
1956	143,858.24	75.00	1,918.10	15.07	28,906.10
1957	196,831.35	75.00	2,624.41	15.70	41,194.28
1958	194,818.73	75.00	2,597.57	16.34	42,457.09

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Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1959	187,959.63	75.00	2,506.12	17.00	42,606.54
1960	197,125.92	75.00	2,628.33	17.67	46,436.45
1961	223,299.34	75.00	2,977.31	18.35	54,631.66
1962	196,487.10	75.00	2,619.82	19.04	49,870.77
1963	166,124.72	75.00	2,214.99	19.73	43,703.12
1964	156,546.18	75.00	2,087.27	20.44	42,662.28
1965	217,380.62	75.00	2,898.39	21.15	61,310.83
1966	187,171.55	75.00	2,495.61	21.88	54,594.57
1967	155,510.94	75.00	2,073.47	22.61	46,889.05
1968	196,306.67	75.00	2,617.41	23.36	61,135.91
1969	192,269.01	75.00	2,563.57	24.11	61,808.18
1970	191,850.46	75.00	2,557.99	24.88	63,637.28
1971	187,212.45	75.00	2,496.15	25.65	64,030.60
1972	240,878.39	75.00	3,211.70	26.43	84,900.64
1973	228,638.28	75.00	3,048.50	27.23	83,018.39
1974	242,414.13	75.00	3,232.17	28.04	90,619.03
1975	332,953.00	75.00	4,439.35	28.85	128,073.37
1976	272,499.49	75.00	3,633.31	29.68	107,823.99
1977	273,296.46	75.00	3,643.94	30.51	111,174.76
1978	378,687.09	75.00	5,049.14	31.35	158,295.93
1979	336,953.63	75.00	4,492.69	32.21	144,690.07
1980	596,336.80	75.00	7,951.12	33.07	262,910.80
1981	389,636.54	75.00	5,195.13	33.93	176,291.76
1982	343,441.48	75.00	4,579.20	34.81	159,420.20
1983	289,239.40	75.00	3,856.51	35.70	137,674.16
1984	604,696.39	75.00	8,062.58	36.59	295,022.05
1985	712,562.23	75.00	9,500.78	37.49	356,225.25

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Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1986	834,696.54	75.00	11,129.23	38.40	427,382.12
1987	873,476.81	75.00	11,646.30	39.32	457,880.27
1988	846,239.47	75.00	11,283.14	40.24	454,014.40
1989	793,122.44	75.00	10,574.91	41.17	435,318.32
1990	904,326.50	75.00	12,057.63	42.10	507,595.77
1991	899,113.44	75.00	11,988.12	43.04	515,937.66
1992	913,952.47	75.00	12,185.97	43.98	535,948.94
1993	786,387.44	75.00	10,485.11	44.93	471,083.09
1994	1,043,217.26	75.00	13,909.50	45.88	638,209.30
1995	1,429,194.25	75.00	19,055.83	46.84	892,577.16
1996	1,073,506.97	75.00	14,313.36	47.80	684,191.96
1997	2,003,127.77	75.00	26,708.24	48.77	1,302,476.63
1998	662,152.50	75.00	8,828.66	49.74	439,093.97
1999	1,801,922.88	75.00	24,025.52	50.71	1,218,244.32
2000	2,589,453.17	75.00	34,525.87	51.68	1,784,346.85
2001	202,454.60	75.00	2,699.38	52.66	142,145.22
2002	791,434.88	75.00	10,552.41	53.64	566,007.59
2003	405,872.85	75.00	5,411.61	54.62	295,582.68
2004	17,309.99	75.00	230.80	55.60	12,833.29
2005	351,679.44	75.00	4,689.04	56.59	265,349.40
2006	114,517.75	75.00	1,526.90	57.58	87,914.20
2007	64,606.93	75.00	861.42	58.57	50,449.91
2008	22.02	75.00	0.29	59.56	17.49
2009	7,625.65	75.00	101.67	60.55	6,156.18
2011	15,273,467.46	75.00	203,645.24	62.53	12,734,669.68
2012	12,782,754.59	75.00	170,435.90	63.53	10,827,479.75
2013	42,063,966.43	75.00	560,850.15	64.52	36,187,883.91

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Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	33,972,176.09	75.00	452,960.14	65.52	29,677,498.77
2015	29,762,506.52	75.00	396,831.48	66.52	26,395,461.06
2016	23,192,005.20	75.00	309,225.23	67.51	20,876,549.18
2017	5,741,406.19	75.00	76,551.71	68.51	5,244,539.84
2018	43,679,445.58	75.00	582,389.77	69.51	40,480,533.41
2019	29,799,169.61	75.00	397,320.32	70.51	28,013,358.95
2020	24,406,888.40	75.00	325,423.59	71.50	23,269,123.98
2021	20,703,247.93	75.00	276,041.96	72.50	20,013,822.49
2022	1,265,740.14	75.00	16,876.45	73.50	1,240,448.01
2023	592,450.96	75.00	7,899.31	74.50	588,504.29
Total	316,219,698.24	71.19	4,215,684.04	64.40	271,484,315.47

Composite Average Remaining Life ... 64.40 Years

FE 2023 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	176.71	75.00	2.36	3.77	8.89
1927	11,476.90	75.00	153.02	4.04	617.94
1928	879.44	75.00	11.73	4.28	50.19
1931	966.10	75.00	12.88	5.07	65.34
1932	4,882.53	75.00	65.10	5.35	348.05
1933	11,588.79	75.00	154.52	5.63	869.20
1934	184.66	75.00	2.46	5.89	14.51
1935	16.48	75.00	0.22	6.18	1.36
1936	4,522.32	75.00	60.30	6.47	390.00
1937	571.15	75.00	7.62	6.75	51.43
1938	56.99	75.00	0.76	7.06	5.36
1940	279.50	75.00	3.73	7.68	28.63
1941	26.62	75.00	0.35	8.01	2.84
1943	20,130.93	75.00	268.41	8.71	2,338.81
1944	210.97	75.00	2.81	9.09	25.56
1945	2,931.33	75.00	39.08	9.47	370.25
1946	90.51	75.00	1.21	9.88	11.92
1947	1,651.27	75.00	22.02	10.30	226.85
1948	398.37	75.00	5.31	10.75	57.08
1949	910.43	75.00	12.14	11.21	136.13
1950	15,549.47	75.00	207.33	11.70	2,425.69
1951	5,474.07	75.00	72.99	12.21	890.86
1952	5,666.27	75.00	75.55	12.74	962.55
1953	5,248.83	75.00	69.98	13.29	930.17
1954	4,874.38	75.00	64.99	13.86	900.87
1955	3,731.32	75.00	49.75	14.46	719.38
1956	3,494.07	75.00	46.59	15.07	702.08

FE 2023 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1957	5,725.26	75.00	76.34	15.70	1,198.22
1958	758.53	75.00	10.11	16.34	165.31
1959	1.46	75.00	0.02	17.00	0.33
1960	101,306.15	75.00	1,350.74	17.67	23,864.43
1961	7,545.39	75.00	100.60	18.35	1,846.03
1962	1,215.01	75.00	16.20	19.04	308.38
1963	21,522.58	75.00	286.97	19.73	5,662.03
1964	17,680.62	75.00	235.74	20.44	4,818.36
1965	6,556.56	75.00	87.42	21.15	1,849.24
1966	26,386.97	75.00	351.82	21.88	7,696.60
1967	9,982.31	75.00	133.10	22.61	3,009.83
1968	34,282.26	75.00	457.09	23.36	10,676.55
1969	908.87	75.00	12.12	24.11	292.17
1970	45,044.93	75.00	600.60	24.88	14,941.52
1971	2,854.85	75.00	38.06	25.65	976.42
1972	6,518.41	75.00	86.91	26.43	2,297.50
1973	3,377.60	75.00	45.03	27.23	1,226.40
1974	590.35	75.00	7.87	28.04	220.68
1975	3,725.78	75.00	49.68	28.85	1,433.15
1976	365.41	75.00	4.87	29.68	144.59
1978	1,567.27	75.00	20.90	31.35	655.14
1979	57,249.98	75.00	763.33	32.21	24,583.51
1980	31,521.69	75.00	420.29	33.07	13,897.17
1989	206,945.03	75.00	2,759.25	41.17	113,585.19
1990	387,918.52	75.00	5,172.22	42.10	217,737.51
1991	432,458.78	75.00	5,766.09	43.04	248,157.53
1992	155,406.46	75.00	2,072.08	43.98	91,131.57

FE 2023 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1993	196,252.86	75.00	2,616.69	44.93	117,564.70
1994	111,996.20	75.00	1,493.28	45.88	68,515.95
1995	994,725.81	75.00	13,262.95	46.84	621,237.83
1996	715,764.96	75.00	9,543.49	47.80	456,187.66
1997	624,235.79	75.00	8,323.10	48.77	405,891.50
1998	53,834.56	75.00	717.79	49.74	35,699.38
1999	13,275.99	75.00	177.01	50.71	8,975.63
2001	1,241.22	75.00	16.55	52.66	871.47
2004	32,512.02	75.00	433.49	55.60	24,103.79
2005	876.04	75.00	11.68	56.59	660.99
2011	2,534,623.05	75.00	33,794.81	62.53	2,113,311.03
2013	3,172,428.36	75.00	42,298.84	64.52	2,729,259.24
2014	1,852,815.14	75.00	24,704.08	65.52	1,618,586.90
2015	2,730,846.74	75.00	36,411.11	66.52	2,421,904.85
2016	433,784.18	75.00	5,783.76	67.51	390,475.80
2017	805,675.05	75.00	10,742.28	68.51	735,951.22
2018	3,071,604.64	75.00	40,954.53	69.51	2,846,652.30
2019	1,645,698.10	75.00	21,942.53	70.51	1,547,074.37
2020	1,850,167.93	75.00	24,668.79	71.50	1,763,919.52
2021	2,437,194.68	75.00	32,495.77	72.50	2,356,035.24
2022	5,166.66	75.00	68.89	73.50	5,063.42
2023	5.99	75.00	0.08	74.50	5.95
Total	24,960,133.41	75.00	332,800.16	63.32	21,073,476.06

Composite Average Remaining Life ... 63.32 Years

FE 2023 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1922	8.90	65.00	0.14	2.00	0.27
1925	66.58	65.00	1.02	2.76	2.82
1926	33.15	65.00	0.51	2.99	1.52
1927	118.73	65.00	1.83	3.24	5.91
1928	164.18	65.00	2.53	3.50	8.84
1929	135.01	65.00	2.08	3.75	7.79
1930	84.54	65.00	1.30	4.02	5.22
1931	84.54	65.00	1.30	4.27	5.55
1932	75.41	65.00	1.16	4.53	5.26
1933	5,976.36	65.00	91.94	4.78	439.61
1934	168.17	65.00	2.59	5.05	13.06
1935	100.86	65.00	1.55	5.30	8.22
1936	193.21	65.00	2.97	5.56	16.53
1937	328.84	65.00	5.06	5.81	29.41
1939	191.94	65.00	2.95	6.34	18.71
1941	662.40	65.00	10.19	6.87	70.05
1942	70.35	65.00	1.08	7.15	7.73
1943	176.53	65.00	2.72	7.43	20.18
1944	867.41	65.00	13.34	7.72	102.97
1945	2,804.03	65.00	43.14	8.01	345.76
1946	116.01	65.00	1.78	8.32	14.84
1947	72.03	65.00	1.11	8.63	9.57
1948	3,674.19	65.00	56.53	8.95	506.17
1949	2,904.47	65.00	44.68	9.29	415.17
1950	1,418.63	65.00	21.83	9.64	210.31
1954	622.51	65.00	9.58	11.15	106.77
1955	58.80	65.00	0.90	11.56	10.46

FE 2023 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1956	678.62	65.00	10.44	11.99	125.14
1957	91.14	65.00	1.40	12.43	17.42
1958	1,624.16	65.00	24.99	12.88	321.86
1959	976.33	65.00	15.02	13.35	200.55
1960	1,364.94	65.00	21.00	13.83	290.51
1961	1,653.27	65.00	25.43	14.34	364.62
1962	6,740.17	65.00	103.69	14.85	1,539.54
1963	13,097.42	65.00	201.50	15.38	3,098.45
1964	5,555.63	65.00	85.47	15.92	1,360.44
1965	235,958.31	65.00	3,630.13	16.48	59,810.32
1966	32,873.93	65.00	505.75	17.05	8,621.87
1967	24,371.47	65.00	374.95	17.63	6,610.53
1968	64,759.14	65.00	996.29	18.23	18,161.94
1969	58,491.24	65.00	899.87	18.84	16,952.29
1970	107,077.40	65.00	1,647.34	19.46	32,063.34
1971	30,448.37	65.00	468.44	20.10	9,414.52
1972	70,066.74	65.00	1,077.95	20.75	22,364.70
1973	161,967.38	65.00	2,491.81	21.41	53,337.43
1974	129,673.24	65.00	1,994.97	22.08	44,045.31
1975	147,751.32	65.00	2,273.10	22.76	51,731.40
1976	127,429.28	65.00	1,960.45	23.45	45,978.68
1977	91,279.51	65.00	1,404.30	24.15	33,919.60
1978	155,373.59	65.00	2,390.36	24.87	59,447.94
1979	265,808.27	65.00	4,089.36	25.59	104,662.81
1980	193,453.67	65.00	2,976.21	26.33	78,351.41
1981	118,927.72	65.00	1,829.66	27.07	49,527.29
1982	267,494.29	65.00	4,115.30	27.82	114,485.23

FE 2023 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1983	157,352.51	65.00	2,420.81	28.58	69,188.98
1984	283,397.56	65.00	4,359.96	29.35	127,959.36
1985	196,307.06	65.00	3,020.11	30.13	90,988.93
1986	461,238.82	65.00	7,095.98	30.91	219,353.17
1987	436,217.70	65.00	6,711.04	31.71	212,794.18
1988	547,012.37	65.00	8,415.58	32.51	273,581.14
1989	666,464.23	65.00	10,253.30	33.32	341,648.71
1990	557,903.98	65.00	8,583.14	34.14	293,005.88
1991	743,118.83	65.00	11,432.60	34.96	399,740.74
1992	897,453.24	65.00	13,806.97	35.80	494,277.22
1993	594,800.69	65.00	9,150.78	36.64	335,278.80
1994	657,146.55	65.00	10,109.95	37.49	379,005.39
1995	1,032,097.54	65.00	15,878.42	38.34	608,826.41
1996	953,416.29	65.00	14,667.94	39.21	575,076.24
1997	772,768.72	65.00	11,888.75	40.07	476,439.21
1998	467,739.06	65.00	7,195.99	40.95	294,689.11
1999	307,379.63	65.00	4,728.92	41.83	197,827.57
2000	1,131,481.31	65.00	17,407.40	42.72	743,709.94
2001	571,518.67	65.00	8,792.60	43.62	383,516.31
2002	863,903.03	65.00	13,290.82	44.52	591,716.30
2003	1,099,359.60	65.00	16,913.22	45.43	768,316.45
2004	716,162.61	65.00	11,017.89	46.34	510,582.28
2005	521,626.60	65.00	8,025.02	47.26	379,264.72
2006	466,759.58	65.00	7,180.92	48.18	346,003.85
2007	1,028,603.87	65.00	15,824.68	49.11	777,202.83
2008	353,903.70	65.00	5,444.67	50.05	272,488.83
2009	411,269.10	65.00	6,327.22	50.99	322,600.18

FE 2023 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	592,190.50	65.00	9,110.62	51.93	473,103.78
2011	696,571.04	65.00	10,716.48	52.88	566,653.76
2012	459,876.64	65.00	7,075.03	53.83	380,833.84
2013	101,578.35	65.00	1,562.74	54.78	85,613.28
2014	214,198.99	65.00	3,295.37	55.74	183,692.19
2015	144,979.96	65.00	2,230.46	56.71	126,479.82
2016	632,625.62	65.00	9,732.70	57.67	561,294.52
2017	99,218.15	65.00	1,526.43	58.64	89,510.72
2018	215,114.77	65.00	3,309.46	59.61	197,284.74
2019	302,363.75	65.00	4,651.75	60.59	281,833.95
2020	631,155.47	65.00	9,710.08	61.56	597,789.50
2021	332,360.73	65.00	5,113.24	62.54	319,796.46
2022	246,301.85	65.00	3,789.26	63.52	240,710.35
2023	740,222.25	65.00	11,388.03	64.51	734,613.73
Total	24,641,325.25	65.00	379,097.32	42.58	16,143,487.24

Composite Average Remaining Life ... 42.58 Years

FE 2023 Study - West Penn Power
Electric Division
366.50 Underground Conduit - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	339.99	65.00	5.23	55.74	291.57
2015	2,253.78	65.00	34.67	56.71	1,966.19
2017	863.00	65.00	13.28	58.64	778.56
2018	5,757.08	65.00	88.57	59.61	5,279.90
2019	1,821.40	65.00	28.02	60.59	1,697.73
Total	11,035.25	65.00	169.77	58.98	10,013.95

Composite Average Remaining Life ... 58.98 Years

FE 2023 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	413.01	55.00	7.51	1.23	9.25
1933	608.42	55.00	11.06	3.11	34.46
1937	33.80	55.00	0.61	4.06	2.50
1941	377.34	55.00	6.86	4.94	33.88
1945	1,235.83	55.00	22.47	5.83	130.99
1946	129.79	55.00	2.36	6.06	14.29
1947	354.39	55.00	6.44	6.29	40.50
1948	39.98	55.00	0.73	6.52	4.74
1949	3,002.13	55.00	54.58	6.76	368.84
1950	10.56	55.00	0.19	7.01	1.34
1951	882.57	55.00	16.05	7.25	116.33
1953	11,283.42	55.00	205.15	7.76	1,591.28
1954	2,101.48	55.00	38.21	8.02	306.47
1955	22.91	55.00	0.42	8.30	3.46
1957	1,044.20	55.00	18.99	8.87	168.32
1958	2,038.93	55.00	37.07	9.17	339.82
1959	1,504.41	55.00	27.35	9.48	259.28
1960	1,578.29	55.00	28.70	9.80	281.33
1961	2,117.61	55.00	38.50	10.14	390.51
1962	9,011.60	55.00	163.85	10.49	1,719.35
1963	34,934.07	55.00	635.16	10.86	6,897.46
1964	31,950.45	55.00	580.92	11.24	6,529.49
1965	160,318.10	55.00	2,914.87	11.64	33,917.09
1966	141,208.01	55.00	2,567.41	12.05	30,927.80
1967	20,234.36	55.00	367.90	12.47	4,588.99
1968	111,686.97	55.00	2,030.67	12.92	26,229.74
1969	70,082.84	55.00	1,274.23	13.38	17,044.04

FE 2023 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1970	151,170.29	55.00	2,748.55	13.85	38,069.83
1971	67,133.83	55.00	1,220.61	14.34	17,505.47
1972	207,478.14	55.00	3,772.32	14.85	56,003.69
1973	174,258.34	55.00	3,168.33	15.37	48,691.73
1974	321,961.91	55.00	5,853.84	15.91	93,108.98
1975	469,587.36	55.00	8,537.93	16.46	140,514.23
1976	314,101.48	55.00	5,710.92	17.02	97,222.66
1977	192,305.14	55.00	3,496.45	17.60	61,544.11
1978	414,686.00	55.00	7,539.73	18.20	137,199.37
1979	544,182.09	55.00	9,894.20	18.80	186,059.84
1980	1,056,542.90	55.00	19,209.83	19.43	373,165.62
1981	637,581.48	55.00	11,592.37	20.06	232,530.32
1982	573,531.72	55.00	10,427.83	20.70	215,898.10
1983	494,480.40	55.00	8,990.53	21.36	192,028.45
1984	832,111.30	55.00	15,129.27	22.03	333,266.35
1985	928,240.88	55.00	16,877.07	22.71	383,239.98
1986	1,168,983.16	55.00	21,254.20	23.40	497,306.96
1987	1,171,836.66	55.00	21,306.08	24.10	513,447.54
1988	1,819,301.72	55.00	33,078.15	24.81	820,575.80
1989	1,436,450.09	55.00	26,117.22	25.53	666,731.06
1990	1,502,177.29	55.00	27,312.26	26.26	717,194.06
1991	1,911,358.38	55.00	34,751.90	27.00	938,263.98
1992	2,528,883.64	55.00	45,979.61	27.75	1,275,834.26
1993	1,943,717.11	55.00	35,340.24	28.51	1,007,393.94
1994	2,758,745.21	55.00	50,158.90	29.27	1,468,180.98
1995	3,431,182.24	55.00	62,385.00	30.05	1,874,438.40
1996	3,729,421.37	55.00	67,807.52	30.83	2,090,525.65

FE 2023 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	5,356,094.46	55.00	97,383.34	31.62	3,079,496.08
1998	745,229.90	55.00	13,549.61	32.42	439,312.31
1999	6,452,638.80	55.00	117,320.47	33.23	3,898,429.19
2000	10,494,820.65	55.00	190,814.53	34.05	6,496,316.60
2001	594,089.24	55.00	10,801.60	34.87	376,640.30
2002	3,302,672.60	55.00	60,048.47	35.70	2,143,729.33
2003	2,688,602.57	55.00	48,883.58	36.54	1,786,116.62
2004	1,774,311.80	55.00	32,260.15	37.38	1,205,991.49
2005	3,674,863.76	55.00	66,815.57	38.23	2,554,642.75
2006	3,174,269.50	55.00	57,713.87	39.09	2,256,230.87
2007	9,741,268.70	55.00	177,113.61	39.96	7,077,267.97
2008	10,489,536.00	55.00	190,718.45	40.83	7,787,160.10
2009	1,598,296.04	55.00	29,059.87	41.71	1,212,041.53
2010	5,524,112.90	55.00	100,438.21	42.59	4,277,761.14
2011	5,975,916.84	55.00	108,652.81	43.48	4,724,302.20
2012	5,666,299.62	55.00	103,023.42	44.38	4,571,754.95
2013	5,778,358.10	55.00	105,060.84	45.28	4,756,762.93
2014	6,708,181.52	55.00	121,966.69	46.18	5,632,628.57
2015	7,599,357.32	55.00	138,169.85	47.09	6,506,689.74
2016	8,206,652.27	55.00	149,211.55	48.01	7,163,084.59
2017	7,934,383.49	55.00	144,261.22	48.93	7,058,123.74
2018	12,122,091.54	55.00	220,401.21	49.85	10,986,999.77
2019	15,538,975.31	55.00	282,526.25	50.78	14,346,136.64
2020	14,675,878.68	55.00	266,833.61	51.71	13,797,974.22
2021	11,577,130.21	55.00	210,492.85	52.65	11,081,409.73
2022	12,580,573.07	55.00	228,737.22	53.58	12,256,790.86
2023	14,457,868.92	55.00	262,869.81	54.53	14,333,625.83

FE 2023 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	225,822,089.41	55.00	4,105,847.77	42.97	176,415,312.95

Composite Average Remaining Life ... *42.97 Years*

FE 2023 Study - West Penn Power
Electric Division
367.50 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1974	257.39	55.00	4.68	15.91	74.44
1975	9,909.08	55.00	180.16	16.46	2,965.09
1976	12,061.36	55.00	219.30	17.02	3,733.31
1977	2,586.87	55.00	47.03	17.60	827.89
1978	8,508.96	55.00	154.71	18.20	2,815.20
1979	7,746.71	55.00	140.85	18.80	2,648.66
1980	24,424.68	55.00	444.08	19.43	8,626.67
1981	19,962.71	55.00	362.96	20.06	7,280.54
1982	35,025.80	55.00	636.83	20.70	13,184.98
1983	21,904.64	55.00	398.27	21.36	8,506.53
1984	13,639.11	55.00	247.98	22.03	5,462.56
1985	8,601.83	55.00	156.40	22.71	3,551.41
1986	42,722.03	55.00	776.76	23.40	18,174.74
1988	94,025.00	55.00	1,709.54	24.81	42,408.93
1989	120,896.67	55.00	2,198.12	25.53	56,114.42
1990	28,362.07	55.00	515.67	26.26	13,541.08
1991	41,887.31	55.00	761.59	27.00	20,562.00
1992	88,791.32	55.00	1,614.38	27.75	44,795.66
1993	40,153.51	55.00	730.06	28.51	20,810.85
1994	260,718.95	55.00	4,740.33	29.27	138,752.43
1995	285,807.01	55.00	5,196.48	30.05	156,135.00
1996	248,196.38	55.00	4,512.65	30.83	139,126.38
1997	299,852.64	55.00	5,451.86	31.62	172,400.81
1998	2,993,590.71	55.00	54,428.81	32.42	1,764,718.84
1999	33,399.18	55.00	607.26	33.23	20,178.46
2000	723,599.68	55.00	13,156.33	34.05	447,909.76
2001	173,097.38	55.00	3,147.22	34.87	109,740.16

FE 2023 Study - West Penn Power
Electric Division
367.50 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2002	265,286.68	55.00	4,823.38	35.70	172,194.74
2003	32,644.15	55.00	593.53	36.54	21,686.46
2004	107,692.66	55.00	1,958.04	37.38	73,198.20
2005	1,132,280.55	55.00	20,586.88	38.23	787,123.68
2006	73,813.31	55.00	1,342.06	39.09	52,465.57
2007	1,075,677.99	55.00	19,557.74	39.96	781,506.15
2008	1,804,950.50	55.00	32,817.21	40.83	1,339,948.55
2009	255,638.16	55.00	4,647.96	41.71	193,859.00
2010	646,839.42	55.00	11,760.69	42.59	500,899.35
2011	2,110,521.45	55.00	38,373.04	43.48	1,668,487.26
2013	6,667.18	55.00	121.22	45.28	5,488.44
2014	16,863.11	55.00	306.60	46.18	14,159.37
2015	12,278.66	55.00	223.25	47.09	10,513.18
2016	2,655.67	55.00	48.28	48.01	2,317.97
2017	8,235.16	55.00	149.73	48.93	7,325.68
2018	38,418.25	55.00	698.51	49.85	34,820.83
2019	13,549.11	55.00	246.35	50.78	12,509.02
2020	100,750.80	55.00	1,831.83	51.71	94,723.93
2023	275,565.94	55.00	5,010.28	54.53	273,197.88
Total	13,620,057.73	55.00	247,636.91	37.44	9,271,472.06

Composite Average Remaining Life ... 37.44 Years

FE 2023 Study - West Penn Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 48 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	7,267.60	48.00	151.41	0.72	109.45
1930	7,505.32	48.00	156.36	1.02	160.14
1931	2,401.04	48.00	50.02	1.34	67.26
1934	1,707.24	48.00	35.57	2.33	82.97
1936	1,354.92	48.00	28.23	2.96	83.60
1937	3,593.26	48.00	74.86	3.24	242.19
1938	1,463.58	48.00	30.49	3.49	106.28
1939	10,420.42	48.00	217.09	3.72	807.71
1940	23,598.05	48.00	491.62	3.95	1,940.53
1941	17,197.46	48.00	358.28	4.17	1,494.47
1942	5,445.00	48.00	113.44	4.40	498.77
1944	1,935.62	48.00	40.32	4.86	196.06
1945	16,935.83	48.00	352.83	5.10	1,800.72
1946	69,423.85	48.00	1,446.31	5.34	7,730.27
1947	149,213.73	48.00	3,108.58	5.60	17,408.91
1948	166,373.64	48.00	3,466.07	5.86	20,317.32
1949	106,564.15	48.00	2,220.06	6.13	13,606.41
1950	119,065.61	48.00	2,480.50	6.40	15,878.04
1951	126,489.90	48.00	2,635.17	6.68	17,598.30
1952	110,828.37	48.00	2,308.89	6.96	16,069.61
1953	137,698.91	48.00	2,868.69	7.25	20,786.16
1954	129,339.89	48.00	2,694.55	7.54	20,306.56
1955	358,619.20	48.00	7,471.13	7.83	58,505.11
1956	339,814.81	48.00	7,079.38	8.13	57,555.23
1957	245,577.77	48.00	5,116.14	8.43	43,149.05
1958	464,990.72	48.00	9,687.18	8.74	84,666.63
1959	344,533.61	48.00	7,177.69	9.05	64,992.72

FE 2023 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1960	344,321.16	48.00	7,173.26	9.38	67,253.57
1961	276,448.24	48.00	5,759.26	9.70	55,881.13
1962	237,746.53	48.00	4,952.99	10.04	49,713.25
1963	194,770.05	48.00	4,057.66	10.38	42,112.96
1964	260,606.11	48.00	5,429.22	10.73	58,245.53
1965	366,186.76	48.00	7,628.79	11.09	84,572.85
1966	265,066.20	48.00	5,522.14	11.45	63,242.96
1967	226,063.19	48.00	4,709.59	11.83	55,706.76
1968	322,541.05	48.00	6,719.52	12.21	82,069.57
1969	897,383.29	48.00	18,695.24	12.61	235,721.81
1970	1,499,028.83	48.00	31,229.35	13.01	406,418.62
1971	1,485,759.80	48.00	30,952.92	13.43	415,686.45
1972	1,482,064.85	48.00	30,875.94	13.86	427,810.77
1973	1,788,972.74	48.00	37,269.77	14.29	532,682.90
1974	2,572,213.81	48.00	53,587.08	14.74	789,886.37
1975	1,831,080.50	48.00	38,147.01	15.20	579,785.51
1976	3,087,283.99	48.00	64,317.57	15.67	1,007,734.11
1977	4,250,808.25	48.00	88,557.33	16.15	1,430,061.51
1978	4,896,652.18	48.00	102,012.24	16.64	1,697,450.56
1979	4,118,202.88	48.00	85,794.76	17.14	1,470,678.75
1980	4,208,911.25	48.00	87,684.49	17.65	1,548,053.31
1981	4,774,899.51	48.00	99,475.76	18.18	1,808,327.24
1982	4,802,801.12	48.00	100,057.03	18.71	1,872,518.87
1983	5,515,023.82	48.00	114,894.81	19.26	2,212,839.97
1984	5,265,569.15	48.00	109,697.91	19.82	2,173,698.55
1985	6,479,817.12	48.00	134,994.40	20.38	2,751,349.64
1986	6,158,043.01	48.00	128,290.87	20.96	2,688,622.65

FE 2023 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1987	7,291,653.84	48.00	151,907.45	21.54	3,272,578.85
1988	7,995,284.86	48.00	166,566.23	22.14	3,687,615.69
1989	9,590,470.29	48.00	199,798.82	22.74	4,544,311.24
1990	9,117,597.88	48.00	189,947.44	23.36	4,437,030.68
1991	7,547,480.08	48.00	157,237.09	23.98	3,771,064.19
1992	9,406,784.81	48.00	195,972.09	24.62	4,824,119.10
1993	7,095,041.50	48.00	147,811.41	25.26	3,733,454.17
1994	8,672,804.45	48.00	180,681.04	25.91	4,681,486.73
1995	9,278,820.20	48.00	193,306.20	26.57	5,135,991.76
1996	5,509,129.47	48.00	114,772.01	27.24	3,125,966.37
1997	13,137,302.77	48.00	273,690.19	27.91	7,639,053.52
1998	4,560,270.49	48.00	95,004.38	28.59	2,716,554.20
1999	8,121,277.09	48.00	169,191.04	29.28	4,954,605.25
2000	15,755,165.79	48.00	328,228.28	29.98	9,840,737.50
2001	7,446,977.78	48.00	155,143.32	30.69	4,760,669.90
2002	4,463,374.14	48.00	92,985.73	31.40	2,919,434.85
2003	4,974,059.54	48.00	103,624.87	32.11	3,327,811.20
2004	7,155,528.03	48.00	149,071.53	32.84	4,895,163.85
2005	7,805,170.35	48.00	162,605.57	33.57	5,458,241.39
2006	1,347,228.89	48.00	28,066.90	34.30	962,806.40
2007	8,485,422.87	48.00	176,777.31	35.05	6,195,185.14
2008	22,300,431.54	48.00	464,586.18	35.79	16,628,317.77
2009	1,911,926.46	48.00	39,831.27	36.54	1,455,571.48
2010	19,869,704.81	48.00	413,946.71	37.30	15,440,325.43
2011	24,512,939.55	48.00	510,679.49	38.06	19,437,545.38
2012	11,078,498.63	48.00	230,799.00	38.83	8,961,681.89
2013	9,945,878.99	48.00	207,203.07	39.60	8,205,393.49

FE 2023 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	9,303,708.30	48.00	193,824.69	40.38	7,826,149.34
2015	10,476,421.89	48.00	218,255.90	41.16	8,983,218.08
2016	11,755,726.49	48.00	244,907.73	41.95	10,272,813.78
2017	11,392,603.22	48.00	237,342.76	42.74	10,143,337.11
2018	14,098,953.86	48.00	293,724.32	43.53	12,787,091.29
2019	20,122,004.28	48.00	419,202.88	44.34	18,585,604.42
2020	16,305,265.45	48.00	339,688.54	45.14	15,334,105.99
2021	16,400,409.75	48.00	341,670.68	45.95	15,700,636.94
2022	19,806,940.56	48.00	412,639.14	46.77	19,298,392.11
2023	21,385,437.20	48.00	445,524.05	47.59	21,201,884.71
Total	476,001,320.99	48.00	9,916,563.03	33.30	330,220,237.86

Composite Average Remaining Life ... 33.30 Years

FE 2023 Study - West Penn Power
Electric Division
369.00 Overhead Services
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1928	24.28	55.00	0.44	1.77	0.78
1931	29.41	55.00	0.53	2.56	1.37
1932	15.91	55.00	0.29	2.83	0.82
1936	42.33	55.00	0.77	3.83	2.95
1940	26.24	55.00	0.48	4.72	2.25
1942	20.30	55.00	0.37	5.16	1.90
1944	69.10	55.00	1.26	5.61	7.05
1948	56.21	55.00	1.02	6.52	6.66
1949	164.51	55.00	2.99	6.76	20.21
1952	30.75	55.00	0.56	7.50	4.19
1954	98,658.59	55.00	1,793.79	8.02	14,387.89
1955	136,233.58	55.00	2,476.97	8.30	20,552.59
1956	218,697.09	55.00	3,976.30	8.58	34,102.73
1957	236,612.20	55.00	4,302.03	8.87	38,141.50
1958	185,924.01	55.00	3,380.43	9.17	30,986.74
1959	196,368.76	55.00	3,570.33	9.48	33,842.91
1960	220,360.04	55.00	4,006.54	9.80	39,279.44
1961	259,162.21	55.00	4,712.03	10.14	47,792.20
1962	242,765.54	55.00	4,413.91	10.49	46,318.05
1963	221,673.96	55.00	4,030.43	10.86	43,767.78
1964	240,922.89	55.00	4,380.41	11.24	49,235.72
1965	250,942.74	55.00	4,562.59	11.64	53,089.75
1966	259,244.62	55.00	4,713.53	12.05	56,780.54
1967	220,628.38	55.00	4,011.42	12.47	50,036.70
1968	322,144.09	55.00	5,857.15	12.92	75,655.69
1969	341,680.17	55.00	6,212.35	13.38	83,096.10
1970	347,938.11	55.00	6,326.13	13.85	87,622.67

FE 2023 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1971	398,161.94	55.00	7,239.29	14.34	103,822.62
1972	662,306.41	55.00	12,041.91	14.85	178,773.55
1973	806,827.95	55.00	14,669.57	15.37	225,446.01
1974	779,845.22	55.00	14,178.97	15.91	225,525.42
1975	1,324,444.49	55.00	24,080.76	16.46	396,312.41
1976	1,090,575.45	55.00	19,828.60	17.02	337,561.77
1977	1,380,337.97	55.00	25,097.00	17.60	441,754.58
1978	1,532,003.60	55.00	27,854.55	18.20	506,865.26
1979	1,531,485.44	55.00	27,845.13	18.80	523,626.07
1980	1,342,688.99	55.00	24,412.48	19.43	474,230.98
1981	1,408,564.57	55.00	25,610.21	20.06	513,713.12
1982	1,331,309.87	55.00	24,205.58	20.70	501,153.23
1983	1,494,034.78	55.00	27,164.21	21.36	580,199.31
1984	1,756,396.43	55.00	31,934.42	22.03	703,448.96
1985	1,799,150.14	55.00	32,711.75	22.71	742,809.63
1986	2,148,991.49	55.00	39,072.49	23.40	914,220.56
1987	2,149,792.73	55.00	39,087.06	24.10	941,945.09
1988	2,321,446.95	55.00	42,208.04	24.81	1,047,062.81
1989	2,545,802.45	55.00	46,287.22	25.53	1,181,639.08
1990	2,967,602.24	55.00	53,956.29	26.26	1,416,841.22
1991	2,529,600.45	55.00	45,992.64	27.00	1,241,751.95
1992	2,401,386.40	55.00	43,661.48	27.75	1,211,511.27
1993	2,701,452.70	55.00	49,117.22	28.51	1,400,114.79
1994	2,860,764.03	55.00	52,013.79	29.27	1,522,474.54
1995	3,252,650.34	55.00	59,138.98	30.05	1,776,907.28
1996	3,388,907.64	55.00	61,616.38	30.83	1,899,650.81
1997	5,344,000.34	55.00	97,163.44	31.62	3,072,542.55

FE 2023 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1998	1,621,915.61	55.00	29,489.31	32.42	956,117.69
1999	4,554,073.19	55.00	82,801.16	33.23	2,751,390.93
2000	5,035,249.97	55.00	91,549.81	34.05	3,116,830.59
2001	37.64	55.00	0.68	34.87	23.86
2002	2,027,170.17	55.00	36,857.56	35.70	1,315,814.40
2003	2,369,924.20	55.00	43,089.44	36.54	1,574,409.34
2004	2,103,783.47	55.00	38,250.53	37.38	1,429,931.86
2005	4,293,316.14	55.00	78,060.13	38.23	2,984,570.22
2006	539,821.40	55.00	9,814.91	39.09	383,698.27
2007	783,302.85	55.00	14,241.84	39.96	569,088.52
2008	5,190,709.95	55.00	94,376.35	40.83	3,853,448.75
2010	1,653,263.04	55.00	30,059.27	42.59	1,280,253.41
2011	2,333,674.10	55.00	42,430.35	43.48	1,844,902.13
2012	2,971,741.21	55.00	54,031.55	44.38	2,397,697.52
2013	3,188,022.10	55.00	57,963.92	45.28	2,624,390.02
2014	4,031,926.76	55.00	73,307.61	46.18	3,385,469.79
2015	4,137,301.98	55.00	75,223.52	47.09	3,542,423.29
2016	4,598,384.11	55.00	83,606.81	48.01	4,013,648.11
2017	3,655,493.08	55.00	66,463.37	48.93	3,251,786.67
2018	4,335,030.87	55.00	78,818.58	49.85	3,929,106.05
2019	5,088,735.28	55.00	92,522.27	50.78	4,698,102.04
2020	4,041,243.72	55.00	73,477.01	51.71	3,799,498.34
2021	4,265,268.30	55.00	77,550.17	52.65	4,082,634.02
2022	4,316,323.78	55.00	78,478.45	53.58	4,205,235.93
2023	4,059,034.10	55.00	73,800.47	54.53	4,024,152.96

FE 2023 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	138,445,714.05	55.00	2,517,189.65	36.11	90,901,266.75

Composite Average Remaining Life ... *36.11 Years*

FE 2023 Study - West Penn Power
Electric Division
370.30 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	117,845.05	15.00	7,856.34	5.99	47,081.05
2014	362,966.32	15.00	24,197.76	6.61	159,962.42
2015	3,162,532.54	15.00	210,835.51	7.29	1,536,103.71
2016	24,568,644.29	15.00	1,637,909.68	8.02	13,140,023.40
2017	23,714,754.78	15.00	1,580,983.71	8.82	13,943,701.25
2018	70,714,287.53	15.00	4,714,286.02	9.67	45,607,191.28
2019	42,191,232.06	15.00	2,812,748.91	10.58	29,762,741.70
2020	11,095,560.91	15.00	739,704.09	11.53	8,528,719.77
2021	9,033,137.59	15.00	602,209.20	12.51	7,531,960.55
2022	5,091,051.13	15.00	339,403.42	13.50	4,582,213.75
2023	5,777,915.64	15.00	385,194.39	14.50	5,585,320.59
Total	195,829,927.84	15.00	13,055,329.02	9.99	130,425,019.47

Composite Average Remaining Life ... 9.99 Years

FE 2023 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *32* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1960	5,548.96	32.00	173.40	0.50	86.70
1961	69,689.85	32.00	2,177.76	0.69	1,513.07
1962	31,849.08	32.00	995.26	0.99	987.39
1963	16,197.65	32.00	506.17	1.31	664.50
1964	21,181.21	32.00	661.90	1.64	1,086.38
1965	16,335.55	32.00	510.47	1.95	996.13
1966	4,620.55	32.00	144.39	2.22	320.85
1967	206.35	32.00	6.45	2.46	15.87
1970	17,472.59	32.00	546.01	3.13	1,710.01
1971	5,077.01	32.00	158.65	3.37	534.67
1972	3,747.10	32.00	117.09	3.62	423.64
1973	39,718.16	32.00	1,241.16	3.88	4,810.03
1974	41,208.27	32.00	1,287.73	4.14	5,333.13
1975	55,543.03	32.00	1,735.68	4.42	7,663.59
1976	44,808.08	32.00	1,400.22	4.69	6,571.33
1977	16,202.99	32.00	506.33	4.98	2,521.92
1978	37,386.15	32.00	1,168.29	5.28	6,162.81
1979	56,606.28	32.00	1,768.91	5.58	9,864.00
1980	56,079.43	32.00	1,752.44	5.89	10,313.45
1981	47,762.90	32.00	1,492.56	6.20	9,257.63
1982	34,005.31	32.00	1,062.64	6.53	6,938.39
1983	40,790.35	32.00	1,274.67	6.87	8,752.90
1984	42,253.53	32.00	1,320.39	7.22	9,526.80
1985	36,090.40	32.00	1,127.80	7.58	8,545.45
1986	3,875.57	32.00	121.11	7.95	963.14
1987	2,863.84	32.00	89.49	8.34	746.61
1988	1,302.81	32.00	40.71	8.75	356.14

FE 2023 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 32 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1989	1,289.81	32.00	40.31	9.17	369.53
1990	94.70	32.00	2.96	9.60	28.42
1991	618.01	32.00	19.31	10.06	194.24
1992	3,006.29	32.00	93.94	10.53	988.99
1993	8,426.48	32.00	263.32	11.01	2,899.99
1994	7,766.68	32.00	242.70	11.52	2,794.78
1995	5,013.26	32.00	156.66	12.03	1,885.18
1996	119,841.18	32.00	3,744.95	12.57	47,066.21
1997	411,534.78	32.00	12,860.17	13.12	168,700.85
1998	1,218,195.16	32.00	38,067.74	13.68	520,909.92
1999	17,569.86	32.00	549.05	14.26	7,831.92
2000	1,118,951.35	32.00	34,966.44	14.86	519,647.06
2001	224,728.37	32.00	7,022.60	15.47	108,649.78
2002	51,953.69	32.00	1,623.52	16.10	26,131.27
2003	60,192.77	32.00	1,880.98	16.73	31,474.38
2004	11,843.77	32.00	370.11	17.38	6,433.76
2005	45,933.53	32.00	1,435.39	18.05	25,903.49
2006	11,555.57	32.00	361.10	18.72	6,760.27
2007	32,826.57	32.00	1,025.81	19.41	19,908.29
2008	567,105.08	32.00	17,721.63	20.11	356,303.13
2009	2,061.04	32.00	64.41	20.81	1,340.50
2011	2,587,067.61	32.00	80,844.04	22.26	1,799,373.67
2012	302,871.14	32.00	9,464.51	22.99	217,615.67
2013	276,027.39	32.00	8,625.66	23.74	204,743.62
2014	484,849.97	32.00	15,151.22	24.49	371,026.60
2015	309,543.48	32.00	9,673.02	25.25	244,219.42
2016	163,946.46	32.00	5,123.21	26.01	133,280.02

FE 2023 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *32* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2017	194,569.20	32.00	6,080.15	26.79	162,882.58
2018	170,063.55	32.00	5,314.37	27.57	146,521.95
2019	209,419.62	32.00	6,544.22	28.36	185,593.57
2020	148,353.69	32.00	4,635.95	29.16	135,166.96
2021	141,001.08	32.00	4,406.18	29.96	132,008.65
2022	180,897.53	32.00	5,652.92	30.77	173,944.09
2023	149,783.82	32.00	4,680.64	31.59	147,855.03
Total	9,987,325.49	32.00	312,096.90	19.28	6,017,120.29

Composite Average Remaining Life ... ***19.28 Years***

FE 2023 Study - West Penn Power
Electric Division
372.00 Leased Property

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	296,546.83	30.00	9,884.66	10.88	107,499.81
2018	71.80	30.00	2.39	25.58	61.22
Total	296,618.63	30.00	9,887.05	10.88	107,561.03

Composite Average Remaining Life ... 10.88 Years

FE 2023 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1922	25.68	0.00	0.00	0.00	0.00
1923	1.21	0.00	0.00	0.00	0.00
1924	53.38	0.00	0.00	0.00	0.00
1925	68.96	25.00	2.76	0.50	1.38
1926	17.30	25.00	0.69	0.83	0.58
1927	36.17	25.00	1.45	1.13	1.64
1928	922.41	25.00	36.90	1.41	52.09
1929	87.57	25.00	3.50	1.62	5.68
1930	3,798.37	25.00	151.94	1.79	272.69
1931	79.48	25.00	3.18	1.96	6.24
1933	1,221.26	25.00	48.85	2.26	110.53
1935	155.49	25.00	6.22	2.54	15.77
1936	277.61	25.00	11.10	2.67	29.61
1937	8.35	25.00	0.33	2.80	0.93
1938	353.21	25.00	14.13	2.93	41.34
1939	197.90	25.00	7.92	3.06	24.19
1940	105.58	25.00	4.22	3.19	13.46
1941	167.69	25.00	6.71	3.32	22.25
1942	879.40	25.00	35.18	3.45	121.28
1943	125.36	25.00	5.01	3.58	17.95
1944	374.86	25.00	14.99	3.71	55.67
1945	1,096.21	25.00	43.85	3.85	168.68
1946	6.46	25.00	0.26	3.98	1.03
1947	17.14	25.00	0.69	4.12	2.82
1948	129.63	25.00	5.19	4.26	22.08
1949	2,154.92	25.00	86.20	4.40	379.04
1950	1,164.50	25.00	46.58	4.54	211.41

FE 2023 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1951	3,522.28	25.00	140.89	4.68	659.55
1952	4,231.30	25.00	169.25	4.83	816.71
1953	530.00	25.00	21.20	4.97	105.39
1954	3,060.96	25.00	122.44	5.12	626.75
1955	884.50	25.00	35.38	5.27	186.39
1956	326.53	25.00	13.06	5.42	70.78
1957	16.22	25.00	0.65	5.57	3.62
1958	3,271.16	25.00	130.85	5.73	749.33
1960	4,404.54	25.00	176.18	6.04	1,064.49
1961	2,796.60	25.00	111.87	6.20	693.85
1962	3,059.83	25.00	122.39	6.37	779.08
1963	7,875.24	25.00	315.01	6.53	2,057.10
1964	3,748.75	25.00	149.95	6.70	1,004.26
1965	11,965.15	25.00	478.61	6.87	3,286.40
1966	68,682.99	25.00	2,747.35	7.04	19,336.24
1967	89,751.18	25.00	3,590.09	7.21	25,892.15
1968	149,124.19	25.00	5,965.03	7.39	44,072.78
1969	131,172.76	25.00	5,246.97	7.57	39,706.04
1970	184,708.66	25.00	7,388.42	7.75	57,252.08
1971	96,113.84	25.00	3,844.59	7.93	30,499.12
1972	168,158.77	25.00	6,726.42	8.12	54,617.08
1973	175,162.81	25.00	7,006.59	8.31	58,220.14
1974	128,361.94	25.00	5,134.53	8.50	43,652.60
1975	214,513.76	25.00	8,580.64	8.70	74,626.80
1976	142,478.09	25.00	5,699.18	8.90	50,696.91
1977	139,736.32	25.00	5,589.51	9.10	50,847.30
1978	120,556.39	25.00	4,822.31	9.30	44,854.85

FE 2023 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1979	166,279.99	25.00	6,651.27	9.51	63,249.65
1980	211,138.92	25.00	8,445.65	9.72	82,097.09
1981	146,314.12	25.00	5,852.63	9.94	58,147.65
1982	100,159.53	25.00	4,006.42	10.15	40,679.28
1983	149,752.99	25.00	5,990.18	10.38	62,150.24
1984	128,656.42	25.00	5,146.31	10.60	54,555.67
1985	148,187.97	25.00	5,927.58	10.83	64,197.71
1986	151,086.47	25.00	6,043.52	11.06	66,863.68
1987	140,429.73	25.00	5,617.25	11.30	63,481.12
1988	255,347.75	25.00	10,214.02	11.54	117,897.15
1989	315,550.01	25.00	12,622.13	11.79	148,796.56
1990	398,249.52	25.00	15,930.15	12.04	191,779.90
1991	164,458.37	25.00	6,578.40	12.29	80,872.16
1992	200,734.28	25.00	8,029.46	12.55	100,793.86
1993	207,611.47	25.00	8,304.55	12.82	106,441.19
1994	241,095.68	25.00	9,643.93	13.09	126,203.65
1995	334,771.36	25.00	13,391.00	13.36	178,910.23
1996	385,253.29	25.00	15,410.29	13.64	210,193.80
1997	506,450.43	25.00	20,258.23	13.92	282,085.72
1998	665,126.61	25.00	26,605.35	14.21	378,185.36
1999	10,348.07	25.00	413.93	14.51	6,006.25
2000	1,099,315.04	25.00	43,973.07	14.81	651,325.92
2001	73,110.91	25.00	2,924.47	15.12	44,216.17
2002	2,609.74	25.00	104.39	15.43	1,611.06
2003	1,109.49	25.00	44.38	15.75	699.11
2004	5,125.53	25.00	205.02	16.08	3,296.57
2005	79,675.13	25.00	3,187.04	16.41	52,305.03

FE 2023 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	26,443.80	25.00	1,057.76	16.75	17,718.99
2007	158,698.05	25.00	6,347.99	17.10	108,537.29
2008	1,004,349.80	25.00	40,174.42	17.45	701,105.71
2009	14,037.79	25.00	561.52	17.81	10,002.02
2010	691,998.77	25.00	27,680.24	18.18	503,252.45
2011	3,192,450.51	25.00	127,699.37	18.56	2,369,721.36
2012	517,976.92	25.00	20,719.30	18.94	392,449.67
2013	713,913.77	25.00	28,556.85	19.34	552,164.86
2014	672,285.40	25.00	26,891.70	19.74	530,914.15
2015	1,006,966.33	25.00	40,279.08	20.16	812,224.28
2016	1,640,357.31	25.00	65,614.99	20.60	1,351,996.11
2017	910,954.20	25.00	36,438.55	21.07	767,608.30
2018	837,566.54	25.00	33,503.02	21.55	722,019.49
2019	1,012,925.67	25.00	40,517.46	22.06	893,995.12
2020	991,929.83	25.00	39,677.61	22.61	897,200.43
2021	792,109.87	25.00	31,684.73	23.20	735,167.40
2022	944,254.50	25.00	37,770.58	23.85	900,781.87
2023	932,803.91	25.00	37,312.55	24.58	917,071.47
Total	24,221,712.65	24.24	968,875.56	17.58	17,028,928.87

Composite Average Remaining Life ... 17.58 Years

FE 2023 Study - West Penn Power
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2023
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	98,949.36	20.00	4,947.37	12.82	63,449.25
2016	4,572,378.32	20.00	228,614.38	13.61	3,110,514.35
2017	6,459,860.70	20.00	322,986.63	14.40	4,652,562.52
2018	3,106,961.32	20.00	155,344.98	15.22	2,364,701.32
2019	1,131,812.34	20.00	56,589.49	16.06	908,646.59
2020	1,134,554.39	20.00	56,726.59	16.91	959,133.30
2021	1,258,779.01	20.00	62,937.70	17.77	1,118,633.95
2022	1,777,452.64	20.00	88,870.87	18.65	1,657,849.20
2023	1,875,089.28	20.00	93,752.60	19.55	1,832,703.97
Total	21,415,837.36	20.00	1,070,770.63	15.57	16,668,194.46

Composite Average Remaining Life ... 15.57 Years

FE 2024 Study - Metropolitan Edison
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 80 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	618.12	80.00	7.73	5.46	42.16
1938	260,448.93	80.00	3,255.60	9.07	29,515.31
1939	16,059.98	80.00	200.75	9.43	1,892.76
1940	8,595.66	80.00	107.45	9.81	1,053.50
1941	14,690.00	80.00	183.62	10.20	1,872.53
1942	5,425.39	80.00	67.82	10.61	719.31
1943	2,530.64	80.00	31.63	11.03	349.00
1944	8,822.26	80.00	110.28	11.48	1,265.66
1945	23,756.40	80.00	296.95	11.95	3,547.37
1946	35,420.45	80.00	442.75	12.43	5,503.62
1947	38,497.06	80.00	481.21	12.93	6,224.27
1948	49,785.96	80.00	622.32	13.46	8,375.45
1949	62,555.36	80.00	781.94	14.01	10,955.57
1950	35,672.13	80.00	445.90	14.58	6,499.70
1951	79,710.23	80.00	996.37	15.16	15,105.79
1952	47,030.63	80.00	587.88	15.76	9,266.39
1953	51,763.45	80.00	647.04	16.39	10,604.15
1954	83,959.01	80.00	1,049.48	17.02	17,866.15
1955	64,444.39	80.00	805.55	17.67	14,235.43
1956	88,012.03	80.00	1,100.14	18.33	20,166.65
1957	92,106.57	80.00	1,151.33	19.01	21,882.32
1958	133,360.41	80.00	1,667.00	19.69	32,816.24
1959	128,173.89	80.00	1,602.17	20.37	32,641.66
1960	103,137.45	80.00	1,289.21	21.07	27,162.29
1961	261,443.45	80.00	3,268.03	21.78	71,171.40
1962	236,861.74	80.00	2,960.76	22.49	66,593.39
1963	249,922.94	80.00	3,124.02	23.21	72,522.36

FE 2024 Study - Metropolitan Edison
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 80 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1964	272,824.35	80.00	3,410.29	23.95	81,661.01
1965	309,639.49	80.00	3,870.47	24.69	95,566.36
1966	337,779.39	80.00	4,222.22	25.44	107,421.79
1967	343,696.86	80.00	4,296.19	26.20	112,567.99
1968	362,726.73	80.00	4,534.06	26.97	122,286.43
1969	406,658.99	80.00	5,083.21	27.75	141,079.23
1970	436,742.96	80.00	5,459.26	28.54	155,822.11
1971	509,237.56	80.00	6,365.44	29.34	186,764.12
1972	602,780.26	80.00	7,534.72	30.15	227,147.54
1973	673,834.77	80.00	8,422.89	30.97	260,832.67
1974	603,861.29	80.00	7,548.23	31.79	239,978.87
1975	478,231.36	80.00	5,977.86	32.63	195,038.42
1976	546,209.00	80.00	6,827.58	33.47	228,512.92
1977	585,072.88	80.00	7,313.38	34.32	251,025.28
1978	566,255.81	80.00	7,078.16	35.18	249,038.98
1979	499,559.01	80.00	6,244.46	36.05	225,123.78
1980	560,471.48	80.00	7,005.86	36.93	258,704.75
1981	482,643.87	80.00	6,033.02	37.81	228,127.99
1982	576,747.84	80.00	7,209.31	38.70	279,029.36
1983	746,951.68	80.00	9,336.85	39.60	369,753.39
1984	769,512.91	80.00	9,618.86	40.51	389,616.90
1985	868,911.28	80.00	10,861.34	41.42	449,865.62
1986	1,006,556.20	80.00	12,581.89	42.34	532,670.88
1987	1,039,189.12	80.00	12,989.80	43.26	561,929.66
1988	951,726.21	80.00	11,896.52	44.19	525,680.09
1989	857,602.96	80.00	10,719.98	45.12	483,727.62
1990	956,536.66	80.00	11,956.65	46.06	550,762.49

FE 2024 Study - Metropolitan Edison
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *80* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1991	995,460.94	80.00	12,443.20	47.01	584,920.51
1992	1,229,456.50	80.00	15,368.13	47.96	736,987.46
1993	1,673,949.27	80.00	20,924.26	48.91	1,023,406.31
1994	1,560,245.89	80.00	19,502.98	49.87	972,555.12
1995	1,224,781.79	80.00	15,309.70	50.83	778,154.83
1996	1,210,914.14	80.00	15,136.35	51.79	783,934.71
1997	846,746.34	80.00	10,584.28	52.76	558,427.77
1998	818,439.49	80.00	10,230.44	53.73	549,688.26
2003	251,094.57	80.00	3,138.67	58.62	183,993.95
2007	101,623.06	80.00	1,270.28	62.57	79,480.50
2009	235,206.67	80.00	2,940.07	64.55	189,784.83
2010	12,975.78	80.00	162.20	65.54	10,630.94
2011	237,058.88	80.00	2,963.22	66.54	197,163.70
Total	28,932,718.77	80.00	361,657.22	40.50	14,648,715.59

Composite Average Remaining Life ... 40.50 Years

FE 2024 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1900	6,649.92	0.00	0.00	0.00	0.00
1912	1,816.55	70.00	25.95	1.43	37.00
1922	38.82	70.00	0.55	3.85	2.14
1923	1,336.79	70.00	19.10	4.11	78.54
1924	2,728.95	70.00	38.98	4.38	170.77
1926	1,349.72	70.00	19.28	4.89	94.26
1927	3,117.19	70.00	44.53	5.14	228.69
1928	6,388.75	70.00	91.27	5.40	492.77
1929	5,511.83	70.00	78.74	5.65	444.91
1930	1,267.43	70.00	18.11	5.91	107.05
1931	2,898.93	70.00	41.41	6.18	255.88
1933	1,422.20	70.00	20.32	6.70	136.04
1935	514.20	70.00	7.35	7.23	53.08
1936	5.49	70.00	0.08	7.49	0.59
1937	4,494.55	70.00	64.21	7.77	499.07
1938	501,014.59	70.00	7,157.35	8.06	57,686.67
1939	1,969.24	70.00	28.13	8.34	234.70
1940	4,050.77	70.00	57.87	8.64	500.11
1941	21,977.11	70.00	313.96	8.94	2,807.80
1942	4,253.41	70.00	60.76	9.26	562.55
1943	103.69	70.00	1.48	9.58	14.19
1944	265.92	70.00	3.80	9.91	37.66
1945	4,131.52	70.00	59.02	10.26	605.37
1946	6,375.07	70.00	91.07	10.61	966.22
1947	15,657.98	70.00	223.69	10.98	2,455.09
1948	23,966.87	70.00	342.38	11.35	3,887.12
1949	35,464.70	70.00	506.64	11.74	5,949.60

FE 2024 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1950	40,437.71	70.00	577.68	12.15	7,016.82
1951	45,996.49	70.00	657.09	12.56	8,254.52
1952	29,847.06	70.00	426.39	12.99	5,538.90
1953	66,045.08	70.00	943.50	13.43	12,675.21
1954	49,093.60	70.00	701.34	13.89	9,740.96
1955	34,600.24	70.00	494.29	14.36	7,098.16
1956	63,950.06	70.00	913.57	14.84	13,559.74
1957	106,175.94	70.00	1,516.80	15.34	23,268.96
1958	56,691.40	70.00	809.88	15.85	12,836.98
1959	30,080.32	70.00	429.72	16.37	7,035.53
1960	42,473.84	70.00	606.77	16.91	10,262.05
1961	54,835.49	70.00	783.36	17.46	13,678.63
1962	75,058.70	70.00	1,072.27	18.03	19,330.14
1963	47,956.82	70.00	685.10	18.60	12,744.47
1964	46,251.13	70.00	660.73	19.19	12,681.52
1965	44,037.95	70.00	629.11	19.79	12,452.44
1966	65,906.76	70.00	941.53	20.40	19,211.61
1967	164,370.15	70.00	2,348.14	21.03	49,388.71
1968	143,923.81	70.00	2,056.05	21.67	44,550.55
1969	228,390.93	70.00	3,262.73	22.32	72,818.33
1970	160,104.36	70.00	2,287.20	22.98	52,550.24
1971	575,285.63	70.00	8,218.37	23.65	194,338.06
1972	545,783.09	70.00	7,796.90	24.33	189,665.33
1973	295,178.34	70.00	4,216.83	25.01	105,477.62
1974	131,713.69	70.00	1,881.62	25.72	48,387.52
1975	3,653.41	70.00	52.19	26.42	1,379.08
1976	25,263.50	70.00	360.91	27.14	9,796.39

FE 2024 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1977	14,534.92	70.00	207.64	27.87	5,786.99
1978	4,573.91	70.00	65.34	28.61	1,869.28
1979	68,159.53	70.00	973.71	29.35	28,580.20
1980	80,565.25	70.00	1,150.93	30.10	34,647.07
1981	24,651.79	70.00	352.17	30.87	10,870.54
1982	9,253.30	70.00	132.19	31.64	4,181.93
1983	202,790.39	70.00	2,897.01	32.42	93,906.96
1984	82,694.09	70.00	1,181.34	33.20	39,220.23
1985	183,870.65	70.00	2,626.72	33.99	89,292.83
1986	321,930.39	70.00	4,599.01	34.79	160,018.15
1987	266,765.60	70.00	3,810.94	35.60	135,671.90
1988	266,213.51	70.00	3,803.05	36.42	138,499.91
1989	614,322.01	70.00	8,776.03	37.24	326,815.68
1990	662,744.18	70.00	9,467.77	38.07	360,445.78
1991	294,558.55	70.00	4,207.98	38.91	163,718.52
1992	422,115.70	70.00	6,030.22	39.75	239,709.13
1993	1,308,921.18	70.00	18,698.87	40.60	759,194.79
1994	160,899.25	70.00	2,298.56	41.46	95,290.91
1995	595,789.68	70.00	8,511.28	42.32	360,214.05
1996	38,184.77	70.00	545.50	43.19	23,560.47
1998	376,026.63	70.00	5,371.81	44.95	241,461.83
1999	24,587.88	70.00	351.26	45.84	16,101.16
2000	1,773.94	70.00	25.34	46.73	1,184.30
2001	9,902.35	70.00	141.46	47.63	6,738.03
2002	7,086.59	70.00	101.24	48.54	4,913.84
2003	8,037.53	70.00	114.82	49.45	5,677.70
2005	440,507.29	70.00	6,292.96	51.29	322,736.15

FE 2024 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	61,261.25	70.00	875.16	52.21	45,693.66
2007	1,173,230.81	70.00	16,760.44	53.14	890,682.24
2008	635.99	70.00	9.09	54.08	491.31
2009	399,091.66	70.00	5,701.31	55.02	313,666.71
2010	72,874.91	70.00	1,041.07	55.96	58,257.86
2011	156,261.75	70.00	2,232.31	56.91	127,035.95
2012	213,137.15	70.00	3,044.82	57.86	176,169.33
2013	863,167.90	70.00	12,330.97	58.81	725,235.68
2014	91,219.36	70.00	1,303.13	59.77	77,891.32
2015	100,084.56	70.00	1,429.78	60.73	86,835.39
2016	912,203.43	70.00	13,031.48	61.70	804,027.00
2017	198,549.41	70.00	2,836.42	62.67	177,747.34
2018	89,459.25	70.00	1,277.99	63.64	81,327.30
2019	87,206.04	70.00	1,245.80	64.61	80,490.69
2020	74,602.42	70.00	1,065.75	65.59	69,897.41
2021	397,824.46	70.00	5,683.21	66.56	378,289.73
2022	786,028.79	70.00	11,228.98	67.54	758,429.01
2023	1,763,741.59	70.00	25,196.31	68.52	1,726,556.65
Total	17,763,919.28	69.29	253,675.25	44.56	11,303,079.24

Composite Average Remaining Life ... 44.56 Years

FE 2024 Study - Metropolitan Edison
Electric Division
361.10 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	2.80	70.00	0.04	58.81	2.35
2016	61,263.28	70.00	875.19	61.70	53,998.19
2017	160,278.28	70.00	2,289.69	62.67	143,485.88
2018	89,952.94	70.00	1,285.04	63.64	81,776.12
2019	27,617.58	70.00	394.54	64.61	25,490.87
2023	107.86	70.00	1.54	68.52	105.59
Total	339,222.74	70.00	4,846.04	62.91	304,859.00

Composite Average Remaining Life ... 62.91 Years

FE 2024 Study - Metropolitan Edison
Electric Division
361.20 Structures - Subtrans (Roads and Trails)
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1903	2,377.57	75.00	31.70	1.30	41.08
1975	1,494.25	75.00	19.92	30.89	615.41
1983	5,088.94	75.00	67.85	37.08	2,515.91
1993	2,946.76	75.00	39.29	45.44	1,785.25
Total	11,907.52	75.00	158.77	31.23	4,957.64

Composite Average Remaining Life ... 31.23 Years

FE 2024 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1911	26.07	0.00	0.00	0.00	0.00
1912	11.14	0.00	0.00	0.00	0.00
1914	362.01	60.00	6.03	0.50	3.02
1916	50.58	60.00	0.84	0.79	0.67
1917	1,016.81	60.00	16.95	1.04	17.54
1918	1,002.75	60.00	16.71	1.30	21.66
1919	521.84	60.00	8.70	1.57	13.68
1920	1,267.19	60.00	21.12	1.82	38.46
1921	23,873.84	60.00	397.90	2.11	838.75
1922	3,904.79	60.00	65.08	2.36	153.38
1923	61,540.31	60.00	1,025.67	2.62	2,690.48
1924	34,156.18	60.00	569.27	2.90	1,650.63
1925	29,530.13	60.00	492.17	3.19	1,568.60
1926	34,377.63	60.00	572.96	3.46	1,984.14
1927	175,880.21	60.00	2,931.33	3.76	11,017.10
1928	34,093.79	60.00	568.23	4.03	2,292.33
1929	72,031.81	60.00	1,200.53	4.32	5,182.56
1930	26,585.19	60.00	443.09	4.60	2,040.11
1931	33,681.67	60.00	561.36	4.90	2,749.66
1932	1,077.21	60.00	17.95	5.18	93.07
1933	5,399.92	60.00	90.00	5.48	493.37
1934	389.96	60.00	6.50	5.77	37.48
1935	7,510.23	60.00	125.17	6.05	757.76
1936	1,762.78	60.00	29.38	6.34	186.40
1937	38,103.06	60.00	635.05	6.64	4,216.97
1938	9,302.11	60.00	155.03	6.93	1,074.55
1939	4,765.17	60.00	79.42	7.23	574.32

FE 2024 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1940	16,506.18	60.00	275.10	7.52	2,069.77
1941	180,062.40	60.00	3,001.03	7.82	23,469.02
1942	74,018.67	60.00	1,233.64	8.12	10,018.96
1943	73,613.51	60.00	1,226.89	8.43	10,341.01
1944	11,048.83	60.00	184.15	8.74	1,608.63
1945	17,658.98	60.00	294.32	9.05	2,664.21
1946	35,843.04	60.00	597.38	9.37	5,595.87
1947	181,017.38	60.00	3,016.95	9.69	29,231.84
1948	217,631.05	60.00	3,627.18	10.02	36,336.79
1949	398,781.40	60.00	6,646.34	10.35	68,818.66
1950	639,907.20	60.00	10,665.09	10.70	114,068.25
1951	743,126.22	60.00	12,385.41	11.05	136,811.28
1952	298,677.56	60.00	4,977.95	11.40	56,756.11
1953	914,332.22	60.00	15,238.83	11.77	179,291.71
1954	1,108,498.79	60.00	18,474.93	12.14	224,248.43
1955	813,143.81	60.00	13,552.36	12.52	169,665.87
1956	638,411.16	60.00	10,640.16	12.91	137,352.47
1957	1,520,944.58	60.00	25,349.01	13.31	337,334.31
1958	991,445.19	60.00	16,524.04	13.72	226,633.04
1959	687,708.85	60.00	11,461.79	14.13	161,985.15
1960	722,312.80	60.00	12,038.52	14.56	175,273.30
1961	732,930.30	60.00	12,215.47	15.00	183,174.25
1962	794,835.69	60.00	13,247.23	15.44	204,558.07
1963	700,427.41	60.00	11,673.76	15.90	185,583.75
1964	638,378.37	60.00	10,639.61	16.36	174,091.43
1965	575,586.72	60.00	9,593.09	16.84	161,534.54
1966	1,048,852.39	60.00	17,480.83	17.32	302,843.86

FE 2024 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1967	3,237,414.75	60.00	53,956.78	17.82	961,458.05
1968	1,112,569.24	60.00	18,542.77	18.33	339,797.67
1969	2,837,231.65	60.00	47,287.08	18.84	890,829.03
1970	1,323,585.26	60.00	22,059.70	19.37	427,187.92
1971	3,094,942.15	60.00	51,582.24	19.90	1,026,530.55
1972	1,892,257.27	60.00	31,537.54	20.45	644,815.03
1973	2,153,363.13	60.00	35,889.30	21.00	753,659.94
1974	1,699,519.65	60.00	28,325.26	21.56	610,820.95
1975	408,004.36	60.00	6,800.06	22.14	150,528.42
1976	887,233.63	60.00	14,787.19	22.72	335,977.70
1977	312,661.79	60.00	5,211.02	23.31	121,490.66
1978	175,956.46	60.00	2,932.60	23.92	70,136.79
1979	625,993.24	60.00	10,433.19	24.53	255,886.44
1980	330,361.01	60.00	5,506.00	25.15	138,458.93
1981	1,030,874.59	60.00	17,181.20	25.77	442,824.11
1982	483,287.86	60.00	8,054.78	26.41	212,748.22
1983	1,982,611.73	60.00	33,043.45	27.06	894,145.25
1984	3,335,289.95	60.00	55,588.03	27.71	1,540,604.56
1985	2,953,149.93	60.00	49,219.04	28.38	1,396,681.53
1986	3,099,344.17	60.00	51,655.61	29.05	1,500,543.84
1987	3,160,198.24	60.00	52,669.84	29.73	1,565,697.47
1988	2,837,607.68	60.00	47,293.34	30.42	1,438,447.71
1989	4,293,379.02	60.00	71,556.14	31.11	2,226,223.57
1990	8,550,286.93	60.00	142,504.42	31.81	4,533,771.65
1991	5,875,929.20	60.00	97,931.91	32.52	3,185,219.89
1992	6,262,819.06	60.00	104,380.05	33.24	3,469,993.65
1993	5,764,225.13	60.00	96,070.18	33.97	3,263,290.74

FE 2024 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1994	2,376,329.01	60.00	39,605.38	34.70	1,374,381.87
1995	4,879,413.78	60.00	81,323.36	35.44	2,882,316.22
1996	1,073,458.79	60.00	17,890.93	36.19	647,473.20
1997	5,483,734.94	60.00	91,395.35	36.94	3,376,443.72
1998	3,144,419.08	60.00	52,406.85	37.70	1,975,989.47
1999	1,760,485.19	60.00	29,341.35	38.47	1,128,785.75
2000	1,421,780.83	60.00	23,696.29	39.25	929,986.04
2001	6,144,141.33	60.00	102,402.10	40.03	4,098,885.59
2002	3,065,191.32	60.00	51,086.39	40.81	2,085,072.63
2003	4,913,556.41	60.00	81,892.40	41.61	3,407,321.61
2004	2,364,425.71	60.00	39,407.00	42.41	1,671,149.49
2005	8,728,384.48	60.00	145,472.71	43.21	6,286,124.04
2006	4,627,635.18	60.00	77,127.06	44.02	3,395,463.58
2007	8,669,008.27	60.00	144,483.11	44.84	6,478,963.79
2008	8,887,930.53	60.00	148,131.80	45.66	6,764,349.40
2009	5,849,799.49	60.00	97,496.41	46.49	4,533,027.96
2010	14,802,456.33	60.00	246,706.98	47.33	11,676,504.20
2011	5,810,098.19	60.00	96,834.73	48.17	4,664,370.17
2012	6,603,657.07	60.00	110,060.67	49.01	5,394,593.84
2013	18,508,186.57	60.00	308,469.00	49.87	15,382,125.38
2014	10,463,556.97	60.00	174,392.18	50.72	8,845,562.87
2015	11,563,078.97	60.00	192,717.50	51.58	9,940,919.53
2016	9,380,419.45	60.00	156,339.93	52.45	8,199,947.65
2017	7,967,454.18	60.00	132,790.57	53.32	7,080,329.37
2018	8,171,781.84	60.00	136,196.02	54.20	7,381,297.46
2019	8,955,015.35	60.00	149,249.88	55.08	8,220,257.25
2020	12,495,391.64	60.00	208,256.00	55.96	11,654,525.63

FE 2024 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	11,726,397.22	60.00	195,439.46	56.85	11,111,077.74
2022	11,569,986.65	60.00	192,832.63	57.75	11,135,366.90
2023	10,608,413.76	60.00	176,806.45	58.64	10,368,609.24
2024	22,596,561.89	60.00	376,608.42	59.55	22,425,934.01
Total	329,710,172.58	58.93	5,495,155.08	43.73	240,275,983.12

Composite Average Remaining Life ... 43.73 Years

FE 2024 Study - Metropolitan Edison
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1968	64,221.09	60.00	1,070.35	18.33	19,614.22
1971	13,539.37	60.00	225.66	19.90	4,490.74
1973	3,233.03	60.00	53.88	21.00	1,131.53
1986	7,888.25	60.00	131.47	29.05	3,819.09
1997	4.43	60.00	0.07	36.94	2.73
2002	907,443.87	60.00	15,124.03	40.81	617,281.66
2012	950,122.49	60.00	15,835.33	49.01	776,164.61
2013	8,732.28	60.00	145.54	49.87	7,257.38
2014	237,507.13	60.00	3,958.44	50.72	200,781.08
2015	733,845.10	60.00	12,230.72	51.58	630,895.55
2016	780,994.97	60.00	13,016.55	52.45	682,711.25
2017	267,474.74	60.00	4,457.90	53.32	237,693.15
2018	1,498,586.27	60.00	24,976.37	54.20	1,353,622.90
2019	979,592.52	60.00	16,326.50	55.08	899,217.05
2020	2,736,898.03	60.00	45,614.85	55.96	2,552,720.97
2021	792,168.98	60.00	13,202.78	56.85	750,601.48
2022	650,129.17	60.00	10,835.46	57.75	625,707.45
2023	1,287,277.94	60.00	21,454.58	58.64	1,258,178.86
Total	11,919,659.66	60.00	198,660.49	53.47	10,621,891.70

Composite Average Remaining Life ... 53.47 Years

FE 2024 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	213,559.35	65.00	3,285.49	14.20	46,650.25
1944	44,130.95	65.00	678.93	14.55	9,878.81
1945	83,153.19	65.00	1,279.27	14.91	19,070.36
1946	149,980.48	65.00	2,307.37	15.27	35,236.86
1947	170,287.03	65.00	2,619.77	15.64	40,976.78
1948	303,191.70	65.00	4,664.44	16.02	74,718.97
1949	254,899.61	65.00	3,921.49	16.40	64,323.43
1950	225,565.43	65.00	3,470.20	16.79	58,279.64
1951	109,826.27	65.00	1,689.62	17.19	29,049.66
1952	423,137.11	65.00	6,509.73	17.60	114,565.79
1953	433,585.89	65.00	6,670.48	18.01	120,157.16
1954	602,714.59	65.00	9,272.44	18.44	170,938.20
1955	666,948.14	65.00	10,260.63	18.86	193,560.26
1956	721,435.58	65.00	11,098.89	19.30	214,231.42
1957	779,493.10	65.00	11,992.08	19.75	236,807.73
1958	889,800.98	65.00	13,689.10	20.20	276,531.70
1959	1,009,009.98	65.00	15,523.07	20.66	320,733.04
1960	1,008,139.04	65.00	15,509.67	21.13	327,748.12
1961	1,092,408.71	65.00	16,806.11	21.61	363,157.30
1962	1,294,942.64	65.00	19,921.99	22.10	440,179.84
1963	1,318,554.36	65.00	20,285.24	22.59	458,201.04
1964	1,492,787.38	65.00	22,965.72	23.09	530,296.48
1965	1,695,401.01	65.00	26,082.82	23.60	615,538.08
1966	1,717,438.46	65.00	26,421.85	24.12	637,254.67
1967	1,980,500.89	65.00	30,468.93	24.64	750,899.26
1968	2,295,971.32	65.00	35,322.27	25.18	889,337.76
1969	2,555,225.31	65.00	39,310.75	25.72	1,011,071.94

FE 2024 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1970	2,714,442.95	65.00	41,760.23	26.27	1,096,976.95
1971	3,244,837.30	65.00	49,920.05	26.83	1,339,167.22
1972	3,072,487.40	65.00	47,268.54	27.39	1,294,677.35
1973	4,022,763.05	65.00	61,888.02	27.96	1,730,568.77
1974	4,020,539.15	65.00	61,853.80	28.54	1,765,386.37
1975	2,773,371.64	65.00	42,666.81	29.13	1,242,854.46
1976	2,883,244.43	65.00	44,357.14	29.72	1,318,387.48
1977	2,820,775.48	65.00	43,396.09	30.32	1,315,972.72
1978	2,967,295.26	65.00	45,650.22	30.93	1,412,030.54
1979	2,768,605.36	65.00	42,593.48	31.55	1,343,749.09
1980	2,737,062.33	65.00	42,108.21	32.17	1,354,657.43
1981	2,584,700.71	65.00	39,764.21	32.80	1,304,227.72
1982	3,154,203.29	65.00	48,525.70	33.44	1,622,462.76
1983	4,594,456.04	65.00	70,683.20	34.08	2,408,617.84
1984	4,022,443.18	65.00	61,883.10	34.73	2,148,910.87
1985	5,633,159.24	65.00	86,663.09	35.38	3,066,047.21
1986	6,641,697.63	65.00	102,178.90	36.04	3,682,580.20
1987	8,218,702.15	65.00	126,440.25	36.71	4,641,130.49
1988	8,402,201.51	65.00	129,263.29	37.38	4,831,823.50
1989	9,937,356.58	65.00	152,880.82	38.06	5,818,155.07
1990	9,621,958.87	65.00	148,028.59	38.74	5,734,904.87
1991	13,219,808.17	65.00	203,379.55	39.43	8,019,252.21
1992	9,568,334.34	65.00	147,203.61	40.13	5,906,691.87
1993	9,762,426.87	65.00	150,189.62	40.83	6,131,706.57
1994	8,790,251.24	65.00	135,233.23	41.53	5,616,368.81
1995	8,122,283.64	65.00	124,956.91	42.24	5,278,378.66
1996	5,412,570.35	65.00	83,269.45	42.96	3,576,908.23

FE 2024 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	7,531,918.97	65.00	115,874.47	43.68	5,060,941.95
1998	9,729,953.79	65.00	149,690.04	44.40	6,646,161.69
1999	6,634,240.89	65.00	102,064.18	45.13	4,606,039.54
2000	5,138,486.96	65.00	79,052.82	45.86	3,625,438.77
2001	9,475,480.81	65.00	145,775.11	46.60	6,792,965.50
2002	5,467,222.49	65.00	84,110.24	47.34	3,981,718.74
2003	5,406,065.72	65.00	83,169.38	48.09	3,999,234.99
2004	6,736,466.87	65.00	103,636.87	48.83	5,060,962.05
2005	9,356,807.45	65.00	143,949.38	49.59	7,138,095.95
2006	9,247,449.13	65.00	142,266.97	50.34	7,162,376.14
2007	8,663,505.91	65.00	133,283.32	51.10	6,811,397.19
2008	15,294,455.50	65.00	235,296.86	51.87	12,204,663.89
2009	12,724,207.16	65.00	195,754.99	52.64	10,303,860.69
2010	10,670,669.32	65.00	164,162.43	53.41	8,767,672.16
2011	11,740,846.29	65.00	180,626.52	54.18	9,786,895.42
2012	18,617,219.97	65.00	286,415.79	54.96	15,742,108.89
2013	9,019,383.04	65.00	138,758.29	55.74	7,734,964.60
2014	12,685,802.81	65.00	195,164.16	56.53	11,032,802.13
2015	7,078,980.92	65.00	108,906.26	57.32	6,242,481.66
2016	9,136,092.66	65.00	140,553.81	58.11	8,168,113.30
2017	14,508,837.36	65.00	223,210.56	58.91	13,149,284.57
2018	22,836,315.12	65.00	351,324.27	59.71	20,977,941.37
2019	21,932,910.04	65.00	337,425.87	60.52	20,419,455.23
2020	26,119,048.19	65.00	401,827.33	61.32	24,641,093.66
2021	24,871,973.56	65.00	382,641.76	62.13	23,775,104.20
2022	35,599,061.19	65.00	547,672.16	62.95	34,475,046.16
2023	36,475,767.12	65.00	561,159.80	63.77	35,783,472.18

FE 2024 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	25,031,158.09	65.00	385,090.73	64.59	24,872,308.73
Total	572,974,393.99	65.00	8,814,898.86	50.14	442,014,591.20

Composite Average Remaining Life ... 50.14 Years

FE 2024 Study - Metropolitan Edison
Electric Division
364.10 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *80* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1926	1,345.11	80.00	16.81	5.46	91.74
1929	2,082.40	80.00	26.03	6.27	163.30
1948	2,335.61	80.00	29.19	13.46	392.92
1953	4,671.22	80.00	58.39	16.39	956.94
1955	2,335.61	80.00	29.19	17.67	515.92
1962	16,349.25	80.00	204.36	22.49	4,596.57
1998	6,147.80	80.00	76.85	53.73	4,129.05
2007	859.01	80.00	10.74	62.57	671.84
Total	36,126.01	80.00	451.57	25.51	11,518.28

Composite Average Remaining Life ... 25.51 Years

FE 2024 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	702.85	65.00	10.81	9.80	105.94
1938	1,728.17	65.00	26.59	12.53	333.09
1939	96.14	65.00	1.48	12.85	19.01
1940	283.10	65.00	4.36	13.18	57.41
1941	261.13	65.00	4.02	13.51	54.29
1942	264.57	65.00	4.07	13.85	56.39
1943	113.70	65.00	1.75	14.20	24.84
1944	795.41	65.00	12.24	14.55	178.05
1945	65.71	65.00	1.01	14.91	15.07
1946	440.47	65.00	6.78	15.27	103.49
1947	732.03	65.00	11.26	15.64	176.15
1948	1,234.77	65.00	19.00	16.02	304.30
1949	591.25	65.00	9.10	16.40	149.20
1950	1,539.84	65.00	23.69	16.79	397.85
1951	1,273.63	65.00	19.59	17.19	336.88
1952	28,420.50	65.00	437.23	17.60	7,694.95
1953	24,305.18	65.00	373.92	18.01	6,735.55
1954	12,257.86	65.00	188.58	18.44	3,476.50
1955	1,900.21	65.00	29.23	18.86	551.47
1956	3,469.19	65.00	53.37	19.30	1,030.18
1957	23,165.84	65.00	356.39	19.75	7,037.71
1958	2,013.13	65.00	30.97	20.20	625.64
1959	12,639.83	65.00	194.46	20.66	4,017.81
1960	55,483.74	65.00	853.59	21.13	18,037.88
1961	50,383.33	65.00	775.12	21.61	16,749.29
1962	6,408.25	65.00	98.59	22.10	2,178.31
1963	1,843.94	65.00	28.37	22.59	640.77

FE 2024 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1964	11,814.01	65.00	181.75	23.09	4,196.80
1965	3,787.29	65.00	58.27	23.60	1,375.03
1966	2,020.96	65.00	31.09	24.12	749.88
1967	1,849.98	65.00	28.46	24.64	701.41
1968	5,622.75	65.00	86.50	25.18	2,177.96
1969	1,630.57	65.00	25.09	25.72	645.20
1970	285,717.12	65.00	4,395.60	26.27	115,465.71
1971	10,343.25	65.00	159.13	26.83	4,268.73
1972	832.50	65.00	12.81	27.39	350.80
1973	1,003.05	65.00	15.43	27.96	431.51
1974	2,634.66	65.00	40.53	28.54	1,156.86
1975	26,188.75	65.00	402.90	29.13	11,736.19
1976	8,584.91	65.00	132.07	29.72	3,925.52
1977	3,204.55	65.00	49.30	30.32	1,495.01
1978	11,980.20	65.00	184.31	30.93	5,700.95
1979	10,907.53	65.00	167.81	31.55	5,294.00
1980	756.21	65.00	11.63	32.17	374.27
1981	18,052.63	65.00	277.73	32.80	9,109.27
1982	7,111.34	65.00	109.40	33.44	3,657.94
1983	7,736.69	65.00	119.02	34.08	4,055.92
1984	5,606.54	65.00	86.25	34.73	2,995.18
1985	7,962.30	65.00	122.50	35.38	4,333.76
1987	28,399.12	65.00	436.90	36.71	16,037.08
1988	8,946.17	65.00	137.63	37.38	5,144.64
1990	376.27	65.00	5.79	38.74	224.27
1991	401.68	65.00	6.18	39.43	243.66
1997	977.29	65.00	15.04	43.68	656.67

FE 2024 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	27,465.40	65.00	422.54	48.09	20,318.03
2004	12,230.16	65.00	188.15	48.83	9,188.26
2005	30,435.12	65.00	468.23	49.59	23,218.26
2006	47,470.76	65.00	730.31	50.34	36,767.27
2007	21,306.46	65.00	327.79	51.10	16,751.50
2008	4,708.79	65.00	72.44	51.87	3,757.52
2012	138,052.44	65.00	2,123.86	54.96	116,732.60
2014	157,467.11	65.00	2,422.55	56.53	136,948.64
2016	7,418.36	65.00	114.13	58.11	6,632.38
2017	485.63	65.00	7.47	58.91	440.12
2018	98,981.47	65.00	1,522.78	59.71	90,926.56
2019	19,456.05	65.00	299.32	60.52	18,113.51
2020	14,421.96	65.00	221.87	61.32	13,605.89
2021	101,382.41	65.00	1,559.71	62.13	96,911.38
2022	237,784.97	65.00	3,658.19	62.95	230,277.08
2023	1,608,492.46	65.00	24,745.78	63.77	1,577,963.94
Total	3,234,421.64	65.00	49,759.81	53.78	2,676,145.18

Composite Average Remaining Life ... 53.78 Years

FE 2024 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	1,192,497.37	60.00	19,874.61	19.25	382,650.82
1944	21,603.01	60.00	360.04	19.75	7,112.01
1945	66,860.68	60.00	1,114.33	20.25	22,568.53
1946	111,948.52	60.00	1,865.78	20.75	38,720.48
1947	104,919.22	60.00	1,748.62	21.25	37,163.39
1948	179,352.85	60.00	2,989.16	21.75	65,022.88
1949	232,088.78	60.00	3,868.08	22.25	86,075.66
1950	109,931.29	60.00	1,832.16	22.75	41,686.59
1951	192,508.17	60.00	3,208.41	23.25	74,604.25
1952	135,497.86	60.00	2,258.26	23.75	53,639.58
1953	218,467.60	60.00	3,641.06	24.25	88,305.18
1954	348,386.33	60.00	5,806.34	24.75	143,721.54
1955	384,132.61	60.00	6,402.10	25.25	161,668.86
1956	389,684.66	60.00	6,494.63	25.75	167,252.57
1957	505,552.25	60.00	8,425.73	26.25	221,195.38
1958	546,890.17	60.00	9,114.68	26.75	243,838.94
1959	550,523.70	60.00	9,175.24	27.25	250,046.22
1960	571,726.45	60.00	9,528.61	27.75	264,440.36
1961	690,209.53	60.00	11,503.29	28.25	324,993.47
1962	765,316.66	60.00	12,755.06	28.75	366,735.62
1963	859,443.66	60.00	14,323.81	29.25	419,002.17
1964	781,306.92	60.00	13,021.56	29.75	387,418.75
1965	923,666.64	60.00	15,394.18	30.25	465,705.67
1966	1,125,450.18	60.00	18,757.18	30.75	576,821.36
1967	1,456,978.50	60.00	24,282.56	31.25	758,878.41
1968	1,393,507.29	60.00	23,224.72	31.75	737,430.58
1969	1,585,556.28	60.00	26,425.48	32.25	852,272.86

FE 2024 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1970	1,650,818.00	60.00	27,513.16	32.75	901,108.36
1971	2,044,633.49	60.00	34,076.64	33.25	1,133,112.33
1972	1,860,906.18	60.00	31,014.57	33.75	1,046,799.24
1973	2,037,289.63	60.00	33,954.24	34.25	1,162,994.89
1974	2,081,268.80	60.00	34,687.21	34.75	1,205,443.16
1975	1,294,037.99	60.00	21,566.93	35.25	760,272.48
1976	1,457,350.45	60.00	24,288.75	35.75	868,365.51
1977	1,296,452.13	60.00	21,607.16	36.25	783,296.96
1978	1,261,372.19	60.00	21,022.51	36.75	772,612.95
1979	917,752.16	60.00	15,295.60	37.25	569,787.01
1980	1,283,110.61	60.00	21,384.81	37.75	807,311.83
1981	1,221,503.54	60.00	20,358.04	38.25	778,728.27
1982	1,467,613.78	60.00	24,459.81	38.75	947,856.93
1983	2,478,913.93	60.00	41,314.52	39.25	1,621,660.58
1984	2,279,897.78	60.00	37,997.64	39.75	1,510,465.76
1985	2,638,395.62	60.00	43,972.50	40.25	1,769,961.26
1986	3,491,043.61	60.00	58,183.05	40.75	2,371,048.88
1987	3,455,366.34	60.00	57,588.44	41.25	2,375,610.81
1988	3,002,770.51	60.00	50,045.31	41.75	2,089,466.85
1989	4,034,097.27	60.00	67,233.79	42.25	2,840,727.29
1990	5,506,905.21	60.00	91,780.17	42.75	3,923,736.50
1991	6,450,738.43	60.00	107,510.45	43.25	4,649,982.53
1992	7,100,446.38	60.00	118,338.73	43.75	5,177,488.70
1993	6,876,018.26	60.00	114,598.32	44.25	5,071,138.03
1994	7,432,473.13	60.00	123,872.41	44.75	5,543,463.83
1995	5,341,945.04	60.00	89,030.88	45.25	4,028,769.93
1996	3,796,274.08	60.00	63,270.14	45.75	2,894,695.21

FE 2024 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1997	5,249,658.00	60.00	87,492.79	46.25	4,046,659.46
1998	5,076,887.01	60.00	84,613.32	46.75	3,955,785.72
1999	5,515,826.00	60.00	91,928.84	47.25	4,343,758.88
2000	5,271,135.36	60.00	87,850.74	47.75	4,194,987.32
2001	5,716,796.16	60.00	95,278.29	48.25	4,597,301.07
2002	5,286,536.30	60.00	88,107.42	48.75	4,295,349.78
2003	3,546,960.99	60.00	59,114.99	49.25	2,911,488.75
2004	8,071,598.18	60.00	134,524.31	49.75	6,692,753.59
2005	12,265,225.12	60.00	204,416.88	50.25	10,272,203.00
2006	11,841,949.52	60.00	197,362.41	50.75	10,016,385.89
2007	21,038,455.66	60.00	350,634.87	51.25	17,970,465.26
2008	19,211,689.89	60.00	320,189.30	51.75	16,570,183.61
2009	21,935,387.01	60.00	365,583.46	52.25	19,102,174.35
2010	14,233,314.28	60.00	237,217.80	52.75	12,513,519.33
2011	22,301,920.84	60.00	371,692.25	53.25	19,793,047.64
2012	33,551,480.67	60.00	559,181.68	53.75	30,056,663.85
2013	14,593,249.29	60.00	243,216.62	54.25	13,194,781.12
2014	18,709,308.31	60.00	311,816.41	54.75	17,072,303.00
2015	15,212,131.08	60.00	253,531.13	55.25	14,007,880.80
2016	21,010,601.13	60.00	350,170.63	55.75	19,522,405.87
2017	22,409,943.17	60.00	373,492.60	56.25	21,009,374.73
2018	38,056,848.86	60.00	634,269.85	56.75	35,995,514.78
2019	37,330,725.50	60.00	622,168.00	57.25	35,619,797.65
2020	37,943,824.35	60.00	632,386.14	57.75	36,520,984.54
2021	30,358,117.01	60.00	505,959.87	58.25	29,472,705.96
2022	30,916,820.29	60.00	515,271.43	58.75	30,272,745.58
2023	43,131,741.87	60.00	718,849.94	59.25	42,592,618.59

FE 2024 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	70,826,293.01	60.00	1,180,417.81	59.75	70,531,201.88
Total	679,817,826.58	60.00	11,330,101.22	53.13	601,989,920.19

Composite Average Remaining Life ... *53.13 Years*

FE 2024 Study - Metropolitan Edison
Electric Division
365.01 Overhead Conductors and Devices - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1939	38.09	60.00	0.63	17.25	10.95
1940	31.89	60.00	0.53	17.75	9.44
1942	710.00	60.00	11.83	18.75	221.91
1943	27.61	60.00	0.46	19.25	8.86
1944	70.73	60.00	1.18	19.75	23.29
1945	168.73	60.00	2.81	20.25	56.95
1946	99.09	60.00	1.65	20.75	34.27
1947	131.73	60.00	2.20	21.25	46.66
1948	1,390.11	60.00	23.17	21.75	503.97
1949	30.39	60.00	0.51	22.25	11.27
1950	10,526.70	60.00	175.44	22.75	3,991.79
1951	990.10	60.00	16.50	23.25	383.70
1952	22,038.55	60.00	367.30	23.75	8,724.41
1953	13,021.43	60.00	217.02	24.25	5,263.30
1954	2,967.70	60.00	49.46	24.75	1,224.28
1955	4,835.80	60.00	80.60	25.25	2,035.23
1956	3,445.72	60.00	57.43	25.75	1,478.90
1957	11,694.14	60.00	194.90	26.25	5,116.56
1958	152.56	60.00	2.54	26.75	68.02
1959	21,521.10	60.00	358.68	27.25	9,774.82
1960	35,551.43	60.00	592.51	27.75	16,443.59
1961	18,396.12	60.00	306.60	28.25	8,662.03
1962	10,322.71	60.00	172.04	28.75	4,946.59
1963	232.90	60.00	3.88	29.25	113.55
1964	3,067.11	60.00	51.12	29.75	1,520.86
1965	6,210.01	60.00	103.50	30.25	3,131.04
1966	18,679.91	60.00	311.33	30.75	9,573.92

FE 2024 Study - Metropolitan Edison
Electric Division
365.01 Overhead Conductors and Devices - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1967	1,743.93	60.00	29.06	31.25	908.34
1968	28,411.37	60.00	473.51	31.75	15,035.02
1969	11,879.99	60.00	198.00	32.25	6,385.77
1970	1,093.30	60.00	18.22	32.75	596.78
1971	3,877.44	60.00	64.62	33.25	2,148.83
1972	1,535.15	60.00	25.59	33.75	863.55
1973	2,906.23	60.00	48.44	34.25	1,659.03
1974	13,628.48	60.00	227.14	34.75	7,893.43
1975	4,118.94	60.00	68.65	35.25	2,419.96
1976	9,542.02	60.00	159.03	35.75	5,685.63
1977	4,307.63	60.00	71.79	36.25	2,602.61
1978	4,016.05	60.00	66.93	36.75	2,459.90
1979	1,524.69	60.00	25.41	37.25	946.60
1980	2,385.56	60.00	39.76	37.75	1,500.95
1981	1,869.24	60.00	31.15	38.25	1,191.67
1982	13,228.37	60.00	220.47	38.75	8,543.53
1983	558.15	60.00	9.30	39.25	365.13
1984	2,555.57	60.00	42.59	39.75	1,693.10
1985	9,403.35	60.00	156.72	40.25	6,308.21
1987	25,041.18	60.00	417.35	41.25	17,216.15
1988	16,503.46	60.00	275.05	41.75	11,483.87
1989	1,073.87	60.00	17.90	42.25	756.20
1990	26,393.66	60.00	439.89	42.75	18,805.80
1991	9,128.79	60.00	152.14	43.25	6,580.44
1993	4,294.68	60.00	71.58	44.25	3,167.37
2004	96,623.40	60.00	1,610.36	49.75	80,117.54
2005	77,537.05	60.00	1,292.26	50.25	64,937.77

FE 2024 Study - Metropolitan Edison
Electric Division
365.01 Overhead Conductors and Devices - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	1,977.22	60.00	32.95	50.75	1,672.41
2007	195,825.21	60.00	3,263.70	51.25	167,268.46
2008	10,488.87	60.00	174.81	51.75	9,046.71
2009	22,850.36	60.00	380.83	52.25	19,898.97
2010	7,205.30	60.00	120.09	52.75	6,334.69
2012	236,026.57	60.00	3,933.71	53.75	211,441.38
2014	160,596.27	60.00	2,676.56	54.75	146,544.60
2015	3,638.52	60.00	60.64	55.25	3,350.48
2016	7,133.20	60.00	118.88	55.75	6,627.95
2017	9,807.05	60.00	163.45	56.25	9,194.13
2018	67,367.30	60.00	1,122.77	56.75	63,718.38
2019	2,451.08	60.00	40.85	57.25	2,338.74
2020	1,105.33	60.00	18.42	57.75	1,063.88
2021	22,958.90	60.00	382.64	58.25	22,289.29
2022	3,113.80	60.00	51.90	58.75	3,048.93
2023	31,588.83	60.00	526.47	59.25	31,193.99
2024	117.03	60.00	1.95	59.75	116.54
Total	1,345,784.75	60.00	22,429.36	47.30	1,060,802.91

Composite Average Remaining Life ... 47.30 Years

FE 2024 Study - Metropolitan Edison
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	380,513.31	70.00	5,435.88	6.08	33,045.19
1944	15,821.25	70.00	226.02	6.38	1,441.17
1945	42,550.51	70.00	607.86	6.68	4,062.76
1946	63,631.42	70.00	909.02	6.99	6,354.41
1947	69,038.07	70.00	986.25	7.32	7,216.03
1948	89,249.67	70.00	1,274.99	7.65	9,754.02
1949	111,809.97	70.00	1,597.28	8.00	12,780.88
1950	64,472.02	70.00	921.02	8.37	7,706.39
1951	142,947.05	70.00	2,042.09	8.75	17,869.20
1952	84,341.60	70.00	1,204.87	9.15	11,026.14
1953	94,275.28	70.00	1,346.78	9.57	12,894.62
1954	140,496.62	70.00	2,007.08	10.02	20,102.09
1955	114,406.64	70.00	1,634.37	10.48	17,133.39
1956	157,112.80	70.00	2,244.46	10.97	24,620.28
1957	154,150.38	70.00	2,202.14	11.48	25,287.94
1958	205,720.85	70.00	2,938.86	12.02	35,315.87
1959	219,487.04	70.00	3,135.51	12.57	39,417.33
1960	184,164.75	70.00	2,630.91	13.16	34,614.50
1961	112,032.35	70.00	1,600.45	13.76	22,014.77
1962	101,482.68	70.00	1,449.75	14.38	20,846.99
1963	105,031.57	70.00	1,500.44	15.02	22,530.09
1964	101,255.83	70.00	1,446.50	15.67	22,667.55
1965	112,141.95	70.00	1,602.02	16.33	26,168.90
1966	137,922.39	70.00	1,970.31	17.01	33,512.95
1967	147,026.94	70.00	2,100.37	17.70	37,173.36
1968	157,352.81	70.00	2,247.89	18.39	41,344.01
1969	167,220.44	70.00	2,388.85	19.10	45,628.00

FE 2024 Study - Metropolitan Edison
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1970	199,854.86	70.00	2,855.06	19.81	56,572.02
1971	188,095.19	70.00	2,687.06	20.54	55,198.98
1972	242,676.69	70.00	3,466.79	21.28	73,767.19
1973	273,558.19	70.00	3,907.96	22.02	86,065.76
1974	264,472.28	70.00	3,778.16	22.78	86,083.42
1975	126,037.32	70.00	1,800.52	23.55	42,405.29
1976	217,645.81	70.00	3,109.21	24.33	75,658.96
1977	249,591.37	70.00	3,565.57	25.12	89,578.15
1978	250,510.99	70.00	3,578.71	25.93	92,781.52
1979	190,024.02	70.00	2,714.62	26.74	72,580.54
1980	234,120.27	70.00	3,344.56	27.56	92,166.34
1981	196,628.87	70.00	2,808.97	28.39	79,752.99
1982	200,843.36	70.00	2,869.18	29.23	83,874.87
1983	346,093.20	70.00	4,944.16	30.09	148,755.82
1984	251,487.33	70.00	3,592.66	30.95	111,184.25
1985	374,897.72	70.00	5,355.66	31.82	170,414.78
1986	648,563.92	70.00	9,265.15	32.70	302,956.25
1987	1,058,580.27	70.00	15,122.50	33.58	507,888.02
1988	1,231,252.20	70.00	17,589.23	34.48	606,531.70
1989	1,328,283.71	70.00	18,975.39	35.39	671,462.48
1990	1,308,777.24	70.00	18,696.73	36.30	678,668.09
1991	1,221,528.11	70.00	17,450.32	37.22	649,439.42
1992	1,262,265.83	70.00	18,032.28	38.14	687,796.60
1993	1,098,372.52	70.00	15,690.96	39.07	613,101.86
1994	1,641,782.22	70.00	23,453.92	40.01	938,391.07
1995	1,004,098.76	70.00	14,344.20	40.95	587,457.50
1996	617,283.24	70.00	8,818.29	41.90	369,503.34

FE 2024 Study - Metropolitan Edison
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	869,150.23	70.00	12,416.37	42.86	532,115.53
1998	1,228,338.58	70.00	17,547.61	43.81	768,816.98
1999	789,723.85	70.00	11,281.71	44.78	505,145.88
2000	1,060,475.82	70.00	15,149.58	45.74	692,959.58
2001	1,207,765.63	70.00	17,253.71	46.71	805,920.63
2002	1,098,343.80	70.00	15,690.55	47.68	748,178.55
2003	323,271.89	70.00	4,618.15	48.66	224,713.00
2005	6,915,953.00	70.00	98,798.85	50.62	5,001,024.80
2006	581,115.34	70.00	8,301.61	51.60	428,376.94
2007	2,974.20	70.00	42.49	52.59	2,234.33
2008	5,622,608.19	70.00	80,322.59	53.57	4,303,164.85
2009	27,126,138.53	70.00	387,514.39	54.56	21,143,786.64
2010	16,055,137.78	70.00	229,358.00	55.55	12,741,425.02
2011	5,184,882.04	70.00	74,069.39	56.54	4,188,197.63
2012	831,486.57	70.00	11,878.32	57.54	683,440.33
2013	40,359,578.39	70.00	576,562.62	58.53	33,746,523.70
2014	11,540,948.14	70.00	164,869.89	59.53	9,813,886.25
2015	1,165,582.62	70.00	16,651.10	60.52	1,007,729.16
2016	3,955,815.95	70.00	56,511.38	61.52	3,476,380.26
2017	7,901,698.47	70.00	112,880.86	62.51	7,056,524.51
2018	15,784,990.48	70.00	225,498.77	63.51	14,321,489.44
2019	23,634,161.15	70.00	337,629.24	64.51	21,779,737.77
2020	19,228,895.23	70.00	274,697.18	65.51	17,994,285.01
2021	16,315,692.84	70.00	233,080.20	66.50	15,500,814.97
2022	309,408.58	70.00	4,420.10	67.50	298,369.17
2023	568,759.43	70.00	8,125.10	68.50	556,582.80

FE 2024 Study - Metropolitan Edison
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	229,365,878.41	70.00	3,276,639.57	57.05	186,944,389.79

Composite Average Remaining Life ... *57.05 Years*

FE 2024 Study - Metropolitan Edison
Electric Division
365.11 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1940	3,106.30	70.00	44.38	5.24	232.57
1941	3,174.60	70.00	45.35	5.51	249.87
1942	6,158.31	70.00	87.98	5.80	509.90
1944	246.45	70.00	3.52	6.38	22.45
1945	807.20	70.00	11.53	6.68	77.07
1947	41.46	70.00	0.59	7.32	4.33
1948	827.60	70.00	11.82	7.65	90.45
1949	261.20	70.00	3.73	8.00	29.86
1950	9,499.49	70.00	135.71	8.37	1,135.48
1951	44.80	70.00	0.64	8.75	5.60
1952	4,778.63	70.00	68.27	9.15	624.72
1953	4,445.49	70.00	63.51	9.57	608.04
1954	5,293.29	70.00	75.62	10.02	757.36
1955	8,151.92	70.00	116.46	10.48	1,220.82
1956	10,692.28	70.00	152.75	10.97	1,675.53
1957	834.54	70.00	11.92	11.48	136.90
1958	11,461.24	70.00	163.73	12.02	1,967.54
1959	1,895.17	70.00	27.07	12.57	340.35
1960	1,515.25	70.00	21.65	13.16	284.80
1961	11,379.95	70.00	162.57	13.76	2,236.20
1962	4,376.50	70.00	62.52	14.38	899.04
1963	8,450.35	70.00	120.72	15.02	1,812.67
1964	9,388.90	70.00	134.13	15.67	2,101.84
1965	4,416.63	70.00	63.09	16.33	1,030.64
1966	6,215.37	70.00	88.79	17.01	1,510.24
1967	3,362.21	70.00	48.03	17.70	850.08
1968	20,172.86	70.00	288.18	18.39	5,300.36

FE 2024 Study - Metropolitan Edison
Electric Division
365.11 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1969	12,247.51	70.00	174.96	19.10	3,341.87
1970	4,401.53	70.00	62.88	19.81	1,245.92
1971	13,293.91	70.00	189.91	20.54	3,901.27
1972	7,866.02	70.00	112.37	21.28	2,391.06
1973	1,303.64	70.00	18.62	22.02	410.15
1975	8,411.64	70.00	120.17	23.55	2,830.10
1976	4,114.43	70.00	58.78	24.33	1,430.28
1979	786.81	70.00	11.24	26.74	300.53
1981	405.12	70.00	5.79	28.39	164.32
1982	99.84	70.00	1.43	29.23	41.69
1983	1,134.79	70.00	16.21	30.09	487.75
1984	7,489.65	70.00	106.99	30.95	3,311.23
1985	1,562.21	70.00	22.32	31.82	710.12
1986	26.54	70.00	0.38	32.70	12.40
1988	0.04	70.00	0.00	34.48	0.02
1989	7.31	70.00	0.10	35.39	3.70
1993	814.09	70.00	11.63	39.07	454.42
1998	52,089.19	70.00	744.13	43.81	32,602.62
2008	4,000.78	70.00	57.15	53.57	3,061.93
2016	66,137.05	70.00	944.81	61.52	58,121.39
2018	1,125.43	70.00	16.08	63.51	1,021.09
2019	81,631.95	70.00	1,166.17	64.51	75,226.81
2020	19,044.41	70.00	272.06	65.51	17,821.64
2021	8.00	70.00	0.11	66.50	7.60
2023	30.53	70.00	0.44	68.50	29.88

FE 2024 Study - Metropolitan Edison
Electric Division
365.11 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	429,030.41	70.00	6,128.98	38.28	234,644.46

Composite Average Remaining Life ... 38.28 Years

FE 2024 Study - Metropolitan Edison
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	812,660.67	65.00	12,502.34	14.20	177,518.89
1946	11,481.88	65.00	176.64	15.27	2,697.59
1948	16,519.99	65.00	254.15	16.02	4,071.21
1949	40,112.04	65.00	617.10	16.40	10,122.20
1950	39,793.91	65.00	612.21	16.79	10,281.61
1951	62,754.10	65.00	965.44	17.19	16,598.81
1952	99,859.43	65.00	1,536.28	17.60	27,037.28
1953	38,846.78	65.00	597.64	18.01	10,765.38
1954	192,246.43	65.00	2,957.61	18.44	54,523.75
1955	135,726.49	65.00	2,088.08	18.86	39,390.25
1956	145,856.92	65.00	2,243.93	19.30	43,312.44
1957	142,047.37	65.00	2,185.32	19.75	43,153.58
1958	151,043.20	65.00	2,323.72	20.20	46,941.10
1959	94,534.84	65.00	1,454.37	20.66	30,049.70
1960	115,227.74	65.00	1,772.72	21.13	37,460.78
1961	138,501.46	65.00	2,130.77	21.61	46,043.04
1962	131,123.44	65.00	2,017.26	22.10	44,571.78
1963	106,501.00	65.00	1,638.46	22.59	37,009.37
1964	89,303.38	65.00	1,373.88	23.09	31,724.05
1965	192,759.46	65.00	2,965.50	23.60	69,983.91
1966	314,916.78	65.00	4,844.82	24.12	116,849.71
1967	813,948.83	65.00	12,522.16	24.64	308,605.55
1968	337,500.36	65.00	5,192.26	25.18	130,729.78
1969	375,996.66	65.00	5,784.50	25.72	148,777.36
1970	397,289.10	65.00	6,112.08	26.27	160,554.85
1971	484,936.05	65.00	7,460.48	26.83	200,136.53
1972	712,692.57	65.00	10,964.39	27.39	300,312.68

FE 2024 Study - Metropolitan Edison
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1973	1,247,728.60	65.00	19,195.62	27.96	536,765.43
1974	548,968.59	65.00	8,445.58	28.54	241,047.69
1975	324,790.36	65.00	4,996.72	29.13	145,551.05
1976	198,566.08	65.00	3,054.83	29.72	90,795.99
1977	318,411.98	65.00	4,898.59	30.32	148,548.33
1978	375,987.74	65.00	5,784.37	30.93	178,919.23
1979	368,875.89	65.00	5,674.95	31.55	179,034.78
1980	358,492.35	65.00	5,515.21	32.17	177,429.03
1981	344,878.84	65.00	5,305.77	32.80	174,024.23
1982	258,271.11	65.00	3,973.36	33.44	132,849.79
1983	409,913.45	65.00	6,306.30	34.08	214,894.83
1985	858,211.76	65.00	13,203.12	35.38	467,112.27
1986	1,080,310.11	65.00	16,619.98	36.04	598,992.73
1988	1,275,732.42	65.00	19,626.45	37.38	733,630.81
1989	1,024,705.32	65.00	15,764.53	38.06	599,947.72
1991	1,542,593.00	65.00	23,731.95	39.43	935,750.52
1992	1,098,095.22	65.00	16,893.60	40.13	677,872.44
1994	709,687.42	65.00	10,918.15	41.53	453,441.68
1995	994,720.35	65.00	15,303.23	42.24	646,432.81
1996	386,759.14	65.00	5,950.08	42.96	255,590.57
1997	752,540.26	65.00	11,577.42	43.68	505,656.34
1998	1,286,137.91	65.00	19,786.53	44.40	878,511.93
1999	796,839.79	65.00	12,258.95	45.13	553,232.18
2000	1,381,842.30	65.00	21,258.89	45.86	974,953.27
2001	2,612,225.64	65.00	40,187.67	46.60	1,872,702.72
2002	1,968,670.79	65.00	30,286.93	47.34	1,433,761.55
2003	652,712.88	65.00	10,041.63	48.09	482,856.17

FE 2024 Study - Metropolitan Edison
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	86,947.20	65.00	1,337.64	48.83	65,321.55
2005	30,813.79	65.00	474.05	49.59	23,507.14
2006	6,229.58	65.00	95.84	50.34	4,824.96
2007	24,933.82	65.00	383.59	51.10	19,603.40
2008	142,291.89	65.00	2,189.08	51.87	113,546.03
2009	4,496.65	65.00	69.18	52.64	3,641.32
2010	47,059.64	65.00	723.99	53.41	38,667.07
2011	57,120.94	65.00	878.77	54.18	47,614.68
2012	247,776.29	65.00	3,811.90	54.96	209,511.48
2013	164,035.07	65.00	2,523.59	55.74	140,675.42
2014	129,141.13	65.00	1,986.77	56.53	112,313.63
2015	452,668.25	65.00	6,964.05	57.32	399,177.97
2016	529,623.67	65.00	8,147.97	58.11	473,509.44
2017	598,220.64	65.00	9,203.30	58.91	542,164.28
2018	685,357.52	65.00	10,543.85	59.71	629,584.49
2019	738,277.13	65.00	11,357.99	60.52	687,333.18
2020	465,043.77	65.00	7,154.45	61.32	438,729.12
2021	564,016.12	65.00	8,677.08	62.13	539,142.66
2022	652,769.79	65.00	10,042.51	62.95	632,159.05
2023	461,706.52	65.00	7,103.10	63.77	452,943.52
Total	35,459,379.59	65.00	545,523.23	40.35	22,013,499.64

Composite Average Remaining Life ... 40.35 Years

FE 2024 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1944	5,773.30	50.00	115.47	3.34	386.20
1945	122,725.31	50.00	2,454.50	3.63	8,911.67
1947	9,703.84	50.00	194.08	4.21	816.39
1948	13,195.77	50.00	263.91	4.50	1,186.47
1949	47,568.95	50.00	951.38	4.79	4,552.70
1950	33,573.73	50.00	671.47	5.08	3,408.19
1951	28,145.09	50.00	562.90	5.37	3,020.95
1958	790.18	50.00	15.80	7.47	117.98
1959	68.16	50.00	1.36	7.78	10.61
1960	277.62	50.00	5.55	8.11	45.00
1962	68.60	50.00	1.37	8.77	12.04
1963	698.33	50.00	13.97	9.12	127.36
1964	527.98	50.00	10.56	9.47	100.04
1965	65,100.80	50.00	1,302.01	9.84	12,809.02
1966	67,520.86	50.00	1,350.41	10.21	13,790.36
1967	150,057.53	50.00	3,001.14	10.60	31,800.99
1968	164,971.67	50.00	3,299.42	10.99	36,264.80
1969	154,219.79	50.00	3,084.38	11.40	35,153.13
1970	215,141.02	50.00	4,302.80	11.81	50,834.13
1971	456,344.90	50.00	9,126.86	12.24	111,736.94
1972	449,876.00	50.00	8,997.48	12.68	114,112.32
1973	625,471.52	50.00	12,509.38	13.13	164,303.98
1974	696,044.05	50.00	13,920.82	13.60	189,296.23
1975	396,934.99	50.00	7,938.67	14.07	111,725.34
1976	475,919.64	50.00	9,518.35	14.56	138,596.75
1977	615,719.99	50.00	12,314.35	15.06	185,458.84
1978	614,428.19	50.00	12,288.51	15.57	191,353.10

FE 2024 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1979	764,314.73	50.00	15,286.23	16.09	246,030.47
1980	673,241.21	50.00	13,464.77	16.63	223,918.23
1981	618,140.72	50.00	12,362.76	17.18	212,351.54
1982	685,553.06	50.00	13,711.01	17.74	243,166.13
1983	817,817.08	50.00	16,356.28	18.31	299,402.04
1984	1,053,570.67	50.00	21,071.33	18.89	397,959.94
1985	2,036,421.53	50.00	40,728.27	19.48	793,340.21
1986	2,562,563.17	50.00	51,251.06	20.08	1,029,248.04
1987	3,066,700.96	50.00	61,333.77	20.70	1,269,425.56
1988	3,418,821.25	50.00	68,376.15	21.32	1,457,935.50
1989	4,141,570.71	50.00	82,831.08	21.96	1,818,814.57
1990	5,532,408.72	50.00	110,647.72	22.60	2,501,119.41
1991	6,270,858.05	50.00	125,416.65	23.26	2,917,288.59
1992	4,405,517.06	50.00	88,109.98	23.93	2,108,227.03
1993	3,784,769.38	50.00	75,695.08	24.60	1,862,364.40
1994	4,830,294.25	50.00	96,605.49	25.29	2,443,099.10
1995	4,265,150.67	50.00	85,302.67	25.98	2,216,576.50
1996	2,291,727.60	50.00	45,834.37	26.69	1,223,298.04
1997	4,407,736.64	50.00	88,154.37	27.40	2,415,724.24
1998	7,368,237.00	50.00	147,364.14	28.13	4,144,775.23
1999	4,372,096.75	50.00	87,441.58	28.86	2,523,352.93
2000	4,337,417.81	50.00	86,748.00	29.60	2,567,540.56
2001	4,967,641.06	50.00	99,352.42	30.35	3,014,971.43
2002	4,243,085.42	50.00	84,861.36	31.10	2,639,446.85
2003	5,968,189.11	50.00	119,363.30	31.87	3,803,866.30
2004	8,348,510.99	50.00	166,969.54	32.64	5,450,030.03
2005	8,888,468.23	50.00	177,768.64	33.42	5,941,306.24

FE 2024 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	14,359,654.54	50.00	287,191.92	34.21	9,824,814.81
2007	8,213,132.99	50.00	164,261.99	35.01	5,750,123.37
2008	7,163,049.81	50.00	143,260.41	35.81	5,130,018.92
2009	6,638,620.11	50.00	132,771.86	36.62	4,862,041.38
2010	8,335,260.46	50.00	166,704.53	37.44	6,240,929.27
2011	8,182,386.80	50.00	163,647.07	38.26	6,261,393.18
2012	12,655,387.80	50.00	253,106.73	39.09	9,894,666.69
2013	11,923,777.84	50.00	238,474.59	39.93	9,522,486.32
2014	12,444,476.88	50.00	248,888.53	40.78	10,148,505.67
2015	15,132,565.52	50.00	302,650.08	41.63	12,598,160.17
2016	14,104,032.31	50.00	282,079.50	42.48	11,983,656.68
2017	12,828,755.19	50.00	256,574.06	43.35	11,121,576.04
2018	13,507,022.35	50.00	270,139.35	44.22	11,944,374.58
2019	10,416,417.12	50.00	208,327.50	45.09	9,393,604.86
2020	13,667,325.78	50.00	273,345.41	45.97	12,566,013.79
2021	12,890,425.81	50.00	257,807.47	46.86	12,080,171.15
2022	11,847,684.40	50.00	236,952.73	47.75	11,314,221.47
2023	12,902,852.73	50.00	258,056.01	48.65	12,553,290.44
2024	15,747,787.13	50.00	314,954.46	49.55	15,605,184.99
Total	332,492,307.21	50.00	6,649,819.13	36.99	245,969,744.42

Composite Average Remaining Life ... 36.99 Years

FE 2024 Study - Metropolitan Edison
Electric Division
367.10 Underground Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	190,491.79	50.00	3,809.82	31.87	121,411.25
2008	2,556.67	50.00	51.13	35.81	1,831.03
2011	76,119.41	50.00	1,522.38	38.26	58,248.72
2012	452,100.91	50.00	9,041.98	39.09	353,476.94
2013	183,392.81	50.00	3,667.84	39.93	146,459.92
2014	271,554.50	50.00	5,431.07	40.78	221,453.45
2018	62,756.59	50.00	1,255.13	44.22	55,496.19
2019	0.02	50.00	0.00	45.09	0.02
2022	216,849.93	50.00	4,336.98	47.75	207,085.88
2023	80,721.38	50.00	1,614.42	48.65	78,534.49
Total	1,536,544.01	50.00	30,730.76	40.48	1,243,997.89

Composite Average Remaining Life ... 40.48 Years

FE 2024 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 43 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1968	998,128.93	43.00	23,211.96	8.53	197,890.99
1969	1,014,561.45	43.00	23,594.10	8.86	208,952.16
1970	1,470,537.01	43.00	34,198.03	9.20	314,453.17
1971	1,360,906.79	43.00	31,648.52	9.54	301,974.27
1972	2,023,999.61	43.00	47,069.06	9.90	465,891.90
1973	2,706,803.84	43.00	62,947.99	10.26	646,123.13
1974	3,094,193.08	43.00	71,956.91	10.64	765,661.05
1975	1,051,009.78	43.00	24,441.72	11.03	269,535.72
1976	1,537,391.82	43.00	35,752.77	11.43	408,504.67
1977	2,501,786.35	43.00	58,180.21	11.84	688,588.89
1978	3,414,974.41	43.00	79,416.83	12.26	973,380.99
1979	2,927,133.61	43.00	68,071.86	12.69	863,797.00
1980	2,161,733.29	43.00	50,272.12	13.13	660,318.66
1981	2,022,745.70	43.00	47,039.90	13.59	639,368.04
1982	2,414,798.27	43.00	56,157.26	14.06	789,637.41
1983	2,946,450.54	43.00	68,521.09	14.54	996,455.53
1984	4,879,529.87	43.00	113,475.75	15.04	1,706,351.87
1985	3,933,897.28	43.00	91,484.62	15.54	1,421,933.06
1986	6,283,323.01	43.00	146,121.61	16.06	2,346,772.53
1987	6,825,034.02	43.00	158,719.36	16.59	2,633,412.37
1988	7,771,039.24	43.00	180,719.15	17.13	3,096,306.85
1989	7,578,346.92	43.00	176,238.00	17.69	3,116,999.14
1990	7,814,492.03	43.00	181,729.67	18.25	3,317,047.76
1991	6,325,134.28	43.00	147,093.96	18.83	2,769,607.14
1992	4,971,953.48	43.00	115,625.10	19.42	2,244,962.72
1993	6,264,884.93	43.00	145,692.83	20.02	2,916,124.88
1994	6,648,835.21	43.00	154,621.77	20.62	3,188,993.35

FE 2024 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1995	6,564,974.42	43.00	152,671.55	21.24	3,243,286.59
1996	5,052,556.74	43.00	117,499.57	21.87	2,570,240.23
1997	6,553,118.22	43.00	152,395.83	22.51	3,431,028.10
1998	6,166,934.72	43.00	143,414.95	23.16	3,321,889.14
1999	6,168,823.58	43.00	143,458.88	23.82	3,417,553.53
2000	9,317,950.78	43.00	216,693.30	24.49	5,306,845.81
2001	10,607,570.42	43.00	246,684.01	25.17	6,208,118.41
2002	9,156,764.40	43.00	212,944.84	25.85	5,505,116.68
2003	11,191,480.81	43.00	260,263.12	26.55	6,908,800.92
2004	19,720,734.29	43.00	458,614.90	27.25	12,495,546.59
2005	26,467,524.73	43.00	615,514.66	27.96	17,207,274.81
2006	20,218,626.71	43.00	470,193.62	28.67	13,481,343.97
2007	24,845,830.96	43.00	577,801.42	29.39	16,984,295.73
2008	21,336,638.83	43.00	496,193.51	30.13	14,947,964.59
2009	19,886,029.34	43.00	462,458.91	30.86	14,272,159.37
2010	13,919,898.37	43.00	323,713.75	31.60	10,230,542.27
2011	9,273,238.38	43.00	215,653.50	32.35	6,976,983.21
2012	13,040,367.70	43.00	303,259.85	33.11	10,039,989.82
2013	10,435,488.72	43.00	242,682.17	33.87	8,218,793.79
2014	9,318,708.35	43.00	216,710.92	34.63	7,505,237.75
2015	11,140,050.56	43.00	259,067.09	35.40	9,171,857.96
2016	9,464,376.56	43.00	220,098.50	36.18	7,963,096.50
2017	10,158,981.91	43.00	236,251.88	36.96	8,732,393.50
2018	13,959,844.83	43.00	324,642.72	37.75	12,255,153.91
2019	16,390,197.39	43.00	381,161.71	38.54	14,690,886.76
2020	17,053,767.39	43.00	396,593.34	39.34	15,602,477.50
2021	13,887,814.45	43.00	322,967.62	40.15	12,965,536.87

FE 2024 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2022	16,965,746.24	43.00	394,546.36	40.95	16,158,245.14
2023	18,394,580.89	43.00	427,774.58	41.77	17,867,690.10
2024	17,401,597.69	43.00	404,682.29	42.59	17,234,927.17
Total	507,003,843.13	43.00	11,790,611.47	29.08	342,864,321.98

Composite Average Remaining Life ... 29.08 Years

FE 2024 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1950	3,188.99	44.00	72.48	4.43	321.30
1951	6,373.99	44.00	144.86	4.74	686.18
1952	14,301.09	44.00	325.02	5.04	1,639.60
1953	31,825.91	44.00	723.30	5.36	3,874.64
1954	44,270.66	44.00	1,006.13	5.67	5,703.15
1955	59,576.81	44.00	1,353.98	5.99	8,110.06
1956	74,509.22	44.00	1,693.35	6.32	10,695.75
1957	82,669.40	44.00	1,878.80	6.65	12,484.81
1958	93,670.81	44.00	2,128.83	6.98	14,862.61
1959	101,120.75	44.00	2,298.14	7.32	16,830.85
1960	121,004.41	44.00	2,750.03	7.67	21,096.44
1961	127,259.56	44.00	2,892.19	8.02	23,202.21
1962	129,980.86	44.00	2,954.04	8.38	24,757.64
1963	150,539.31	44.00	3,421.26	8.75	29,920.31
1964	172,496.25	44.00	3,920.27	9.11	35,731.92
1965	214,975.39	44.00	4,885.68	9.49	46,368.38
1966	272,509.62	44.00	6,193.25	9.87	61,144.86
1967	334,450.75	44.00	7,600.96	10.26	77,994.86
1968	391,018.10	44.00	8,886.55	10.66	94,687.85
1969	418,824.10	44.00	9,518.49	11.06	105,237.15
1970	438,047.22	44.00	9,955.37	11.46	114,123.07
1971	436,612.81	44.00	9,922.77	11.88	117,857.10
1972	463,047.25	44.00	10,523.54	12.30	129,418.32
1973	544,621.20	44.00	12,377.45	12.73	157,508.99
1974	514,663.44	44.00	11,696.61	13.16	153,925.92
1975	462,257.54	44.00	10,505.59	13.60	142,889.25
1976	541,619.94	44.00	12,309.24	14.05	172,946.89

FE 2024 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1977	587,594.31	44.00	13,354.08	14.51	193,714.82
1978	693,095.94	44.00	15,751.79	14.97	235,791.41
1979	741,106.71	44.00	16,842.92	15.44	260,060.02
1980	750,890.21	44.00	17,065.26	15.92	271,655.27
1981	777,050.15	44.00	17,659.79	16.40	289,698.98
1982	790,065.07	44.00	17,955.58	16.90	303,411.01
1983	771,983.23	44.00	17,544.64	17.40	305,276.55
1984	745,511.51	44.00	16,943.02	17.91	303,436.44
1985	792,486.96	44.00	18,010.62	18.43	331,867.57
1986	871,010.76	44.00	19,795.21	18.95	375,156.53
1987	1,020,352.52	44.00	23,189.25	19.48	451,841.77
1988	1,136,889.49	44.00	25,837.75	20.03	517,423.14
1989	1,687,363.03	44.00	38,348.21	20.57	788,996.82
1990	1,601,002.53	44.00	36,385.52	21.13	768,905.06
1991	1,319,631.51	44.00	29,990.88	21.70	650,708.50
1992	1,165,139.81	44.00	26,479.79	22.27	589,684.99
1993	1,235,350.86	44.00	28,075.46	22.85	641,501.43
1994	1,762,669.88	44.00	40,059.68	23.44	938,918.48
1995	1,992,418.82	44.00	45,281.12	24.03	1,088,253.15
1996	2,560,122.21	44.00	58,183.15	24.64	1,433,384.27
1997	2,233,602.76	44.00	50,762.44	25.25	1,281,508.62
1998	2,328,781.21	44.00	52,925.53	25.86	1,368,816.56
1999	1,855,336.02	44.00	42,165.68	26.49	1,116,820.71
2000	1,417,073.20	44.00	32,205.41	27.12	873,290.76
2001	2,161,109.10	44.00	49,114.89	27.75	1,363,099.94
2002	1,993,430.96	44.00	45,304.12	28.40	1,286,433.50
2003	888,400.72	44.00	20,190.42	29.04	586,395.85

FE 2024 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2004	66,458.84	44.00	1,510.39	29.70	44,853.00
2005	628.04	44.00	14.27	30.36	433.27
2006	1,497,686.98	44.00	34,037.49	31.02	1,055,788.26
2007	1,249,767.33	44.00	28,403.10	31.69	899,972.85
2008	2,261,692.85	44.00	51,400.83	32.36	1,663,219.93
2009	4,325,204.28	44.00	98,297.65	33.03	3,247,101.93
2010	1,864,370.15	44.00	42,370.99	33.71	1,428,429.21
2011	1,679,719.67	44.00	38,174.50	34.39	1,313,006.99
2012	3,330,275.18	44.00	75,686.19	35.08	2,655,174.82
2013	2,493,495.15	44.00	56,668.93	35.77	2,027,090.00
2014	2,729,252.93	44.00	62,026.93	36.46	2,261,724.97
2015	2,819,931.95	44.00	64,087.77	37.16	2,381,508.47
2016	2,075,962.47	44.00	47,179.79	37.86	1,786,293.69
2017	1,835,830.67	44.00	41,722.39	38.57	1,609,072.88
2018	2,769,624.42	44.00	62,944.44	39.28	2,472,151.25
2019	4,513,397.63	44.00	102,574.67	39.99	4,101,800.94
2020	3,730,334.84	44.00	84,778.23	40.71	3,451,104.28
2021	4,229,006.29	44.00	96,111.39	41.43	3,981,928.40
2022	6,177,751.48	44.00	140,399.95	42.16	5,918,995.36
2023	3,434,703.88	44.00	78,059.51	42.89	3,348,108.48
2024	1,074,018.69	44.00	24,408.91	43.63	1,064,960.71
Total	96,284,018.58	44.00	2,188,218.68	30.58	66,912,791.97

Composite Average Remaining Life ... 30.58 Years

FE 2024 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1954	1,247.43	60.00	20.79	8.00	166.41
1955	4,201.42	60.00	70.02	8.33	583.37
1956	5,793.20	60.00	96.55	8.67	836.91
1957	9,284.40	60.00	154.74	9.02	1,395.69
1958	6,720.49	60.00	112.01	9.38	1,050.89
1959	9,434.45	60.00	157.24	9.76	1,534.65
1960	10,447.20	60.00	174.12	10.15	1,767.71
1961	7,970.39	60.00	132.84	10.56	1,402.67
1962	11,208.16	60.00	186.80	10.98	2,051.46
1963	8,580.03	60.00	143.00	11.42	1,633.09
1964	17,246.36	60.00	287.44	11.87	3,412.78
1965	58,402.02	60.00	973.37	12.34	12,014.70
1966	72,713.94	60.00	1,211.90	12.83	15,547.80
1967	82,651.71	60.00	1,377.53	13.33	18,361.72
1968	149,924.70	60.00	2,498.75	13.85	34,601.98
1969	150,378.73	60.00	2,506.31	14.38	36,035.54
1970	165,513.82	60.00	2,758.57	14.93	41,180.41
1971	185,954.85	60.00	3,099.25	15.49	48,016.62
1972	275,033.84	60.00	4,583.90	16.07	73,672.15
1973	439,419.02	60.00	7,323.66	16.66	122,038.69
1974	407,244.62	60.00	6,787.41	17.27	117,234.14
1975	415,788.13	60.00	6,929.81	17.89	123,978.98
1976	451,734.20	60.00	7,528.91	18.53	139,492.36
1977	455,739.74	60.00	7,595.67	19.18	145,659.58
1978	634,633.88	60.00	10,577.24	19.84	209,827.66
1979	778,106.73	60.00	12,968.45	20.51	265,972.72
1980	700,657.81	60.00	11,677.64	21.20	247,509.34

FE 2024 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981	702,833.01	60.00	11,713.89	21.89	256,404.27
1982	640,250.79	60.00	10,670.85	22.60	241,143.12
1983	787,475.81	60.00	13,124.61	23.32	306,036.02
1984	1,304,795.18	60.00	21,746.60	24.05	522,940.32
1985	1,671,567.36	60.00	27,859.47	24.78	690,496.90
1986	2,060,103.24	60.00	34,335.08	25.54	876,749.48
1987	2,378,586.84	60.00	39,643.14	26.29	1,042,286.70
1988	3,482,732.94	60.00	58,045.59	27.06	1,570,809.96
1989	4,747,792.54	60.00	79,129.93	27.84	2,202,993.41
1990	5,752,239.55	60.00	95,870.72	28.63	2,744,514.73
1991	5,351,575.92	60.00	89,192.99	29.42	2,624,229.32
1992	5,024,951.97	60.00	83,749.26	30.23	2,531,502.90
1993	5,326,604.95	60.00	88,776.81	31.04	2,755,478.36
1994	5,959,287.82	60.00	99,321.53	31.86	3,164,488.35
1995	4,854,872.11	60.00	80,914.59	32.69	2,645,222.87
1996	5,604,433.92	60.00	93,407.30	33.53	3,131,914.75
1997	4,820,046.35	60.00	80,334.16	34.37	2,761,459.46
1998	5,569,268.02	60.00	92,821.20	35.23	3,270,000.68
1999	5,800,198.56	60.00	96,670.04	36.09	3,488,700.17
2000	4,867,084.44	60.00	81,118.13	36.96	2,998,020.07
2001	6,577,388.79	60.00	109,623.22	37.84	4,147,646.29
2002	5,555,590.19	60.00	92,593.23	38.72	3,585,112.93
2003	2,570,996.58	60.00	42,849.97	39.61	1,697,222.38
2004	16,249.04	60.00	270.82	40.51	10,969.74
2006	2,169,818.48	60.00	36,163.67	42.32	1,530,407.84
2007	2,725,047.54	60.00	45,417.49	43.24	1,963,641.23
2008	2,214,733.27	60.00	36,912.25	44.16	1,629,897.33

FE 2024 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	104,052,556.48	60.00	1,734,210.45	32.32	56,057,269.58

Composite Average Remaining Life ... *32.32 Years*

FE 2024 Study - Metropolitan Edison
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	13,572.81	15.00	904.85	3.26	2,948.18
2011	43.76	15.00	2.92	4.45	12.97
2013	59,305.20	15.00	3,953.68	5.43	21,463.92
2014	17,392.76	15.00	1,159.52	5.99	6,948.70
2015	1,486,935.50	15.00	99,129.04	6.61	655,305.42
2016	17,945,240.65	15.00	1,196,349.42	7.29	8,716,353.25
2017	26,968,797.33	15.00	1,797,919.89	8.02	14,423,694.84
2018	37,053,228.75	15.00	2,470,215.34	8.82	21,786,400.77
2019	28,087,952.19	15.00	1,872,530.22	9.67	18,115,329.35
2020	9,550,970.93	15.00	636,731.42	10.58	6,737,491.82
2021	8,016,691.77	15.00	534,446.14	11.53	6,162,114.57
2022	6,247,917.69	15.00	416,527.86	12.51	5,209,603.98
2023	6,176,706.64	15.00	411,780.46	13.50	5,559,360.80
2024	4,023,806.42	15.00	268,253.77	14.50	3,889,681.03
Total	145,648,562.40	15.00	9,709,904.53	9.40	91,286,709.60

Composite Average Remaining Life ... 9.40 Years

FE 2024 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 37 **Survivor Curve:** R0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1962	10,202.86	37.00	275.74	5.23	1,441.16
1963	25,482.82	37.00	688.70	5.63	3,878.04
1964	11,474.02	37.00	310.10	6.03	1,870.95
1965	14,759.12	37.00	398.88	6.43	2,565.14
1966	8,124.17	37.00	219.56	6.83	1,498.95
1972	5,105.56	37.00	137.98	9.21	1,270.95
1973	7,103.35	37.00	191.98	9.61	1,845.77
1974	5,657.76	37.00	152.91	10.02	1,532.37
1975	2,541.90	37.00	68.70	10.43	716.68
1976	2,882.51	37.00	77.90	10.85	845.00
1977	3,877.42	37.00	104.79	11.27	1,180.53
1978	4,404.81	37.00	119.04	11.69	1,391.51
1979	7,011.71	37.00	189.50	12.12	2,296.16
1980	9,257.03	37.00	250.18	12.55	3,139.81
1981	12,981.04	37.00	350.83	12.99	4,556.73
1982	10,778.01	37.00	291.29	13.43	3,912.69
1983	10,838.83	37.00	292.93	13.88	4,066.44
1984	12,184.60	37.00	329.30	14.34	4,721.26
1985	17,559.46	37.00	474.56	14.80	7,022.69
1986	13,721.29	37.00	370.83	15.27	5,660.94
1987	11,695.15	37.00	316.07	15.74	4,974.64
1988	16,612.97	37.00	448.98	16.22	7,281.66
1989	45,370.25	37.00	1,226.18	16.70	20,482.10
1990	134,957.55	37.00	3,647.37	17.20	62,720.58
1991	172,319.99	37.00	4,657.12	17.69	82,403.55
1992	208,554.64	37.00	5,636.40	18.20	102,576.20
1993	349,788.74	37.00	9,453.40	18.71	176,871.74

FE 2024 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 37 **Survivor Curve:** R0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1994	132,074.29	37.00	3,569.44	19.23	68,629.49
1995	145,508.85	37.00	3,932.53	19.75	77,666.65
1996	137,371.20	37.00	3,712.60	20.28	75,288.42
1997	88,307.81	37.00	2,386.61	20.81	49,675.71
1998	287,514.97	37.00	7,770.39	21.35	165,935.04
1999	56,029.53	37.00	1,514.26	21.90	33,164.36
2000	49,930.73	37.00	1,349.43	22.45	30,299.21
2001	58,557.25	37.00	1,582.57	23.01	36,414.74
2002	29,852.70	37.00	806.80	23.57	19,017.92
2003	62,627.37	37.00	1,692.57	24.14	40,856.52
2004	267,338.60	37.00	7,225.10	24.71	178,530.71
2005	190,769.76	37.00	5,155.75	25.28	130,360.96
2006	223,633.90	37.00	6,043.93	25.86	156,318.15
2007	62,545.09	37.00	1,690.34	26.45	44,703.02
2008	92,123.82	37.00	2,489.74	27.03	67,301.01
2009	76,812.36	37.00	2,075.93	27.62	57,337.09
2010	134,109.47	37.00	3,624.45	28.21	102,249.18
2011	119,402.77	37.00	3,226.98	28.80	92,950.85
2012	181,541.12	37.00	4,906.33	29.40	144,243.25
2013	67,402.82	37.00	1,821.63	30.00	54,642.75
2014	95,644.23	37.00	2,584.88	30.60	79,085.80
2015	80,019.86	37.00	2,162.62	31.20	67,464.67
2016	52,661.88	37.00	1,423.24	31.80	45,256.56
2017	41,428.62	37.00	1,119.65	32.40	36,279.44
2018	29,164.15	37.00	788.19	33.01	26,016.87
2019	75,023.12	37.00	2,027.58	33.62	68,160.33
2020	62,807.30	37.00	1,697.43	34.23	58,098.05

FE 2024 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *37* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	40,521.79	37.00	1,095.14	34.84	38,154.31
2022	59,068.17	37.00	1,596.38	35.45	56,598.21
2023	38,097.20	37.00	1,029.62	36.07	37,139.61
Total	4,173,138.29	37.00	112,783.33	23.50	2,650,563.16

Composite Average Remaining Life ... 23.50 Years

FE 2024 Study - Metropolitan Edison
Electric Division
371.21 Installations - Meter Socket Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	403,401.79	25.00	16,135.94	4.94	79,788.85
1998	8,805.95	25.00	352.24	5.33	1,878.63
Total	412,207.74	25.00	16,488.17	4.95	81,667.48

Composite Average Remaining Life ... 4.95 Years

FE 2024 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 28 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	19,772.43	0.00	0.00	0.00	0.00
1951	553.90	0.00	0.00	0.00	0.00
1952	2,615.18	0.00	0.00	0.00	0.00
1953	2,785.35	0.00	0.00	0.00	0.00
1954	5,855.01	0.00	0.00	0.00	0.00
1955	1,127.63	0.00	0.00	0.00	0.00
1956	1,798.26	0.00	0.00	0.00	0.00
1957	161.35	0.00	0.00	0.00	0.00
1958	5,292.24	0.00	0.00	0.00	0.00
1959	965.02	0.00	0.00	0.00	0.00
1960	8,895.29	0.00	0.00	0.00	0.00
1961	11,425.37	0.00	0.00	0.00	0.00
1962	3,724.53	0.00	0.00	0.00	0.00
1963	8,207.63	0.00	0.00	0.00	0.00
1964	15,474.56	0.00	0.00	0.00	0.00
1965	49,938.98	0.00	0.00	0.00	0.00
1966	8,097.63	0.00	0.00	0.00	0.00
1967	18,364.69	0.00	0.00	0.00	0.00
1968	31,241.05	0.00	0.00	0.00	0.00
1969	47,808.82	28.00	1,707.39	0.50	853.69
1970	22,650.75	28.00	808.92	0.69	554.57
1971	26,870.14	28.00	959.61	0.97	934.53
1972	24,344.27	28.00	869.40	1.30	1,128.03
1973	43,542.71	28.00	1,555.03	1.62	2,521.32
1974	11,992.97	28.00	428.30	1.92	823.77
1975	5,659.60	28.00	202.12	2.22	448.82
1976	6,945.43	28.00	248.04	2.51	622.91

FE 2024 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 28 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1977	10,185.55	28.00	363.75	2.81	1,022.02
1978	6,084.17	28.00	217.28	3.11	675.51
1979	5,044.69	28.00	180.16	3.42	616.00
1980	2,188.78	28.00	78.17	3.73	291.80
1981	1,673.56	28.00	59.77	4.06	242.44
1982	3,162.21	28.00	112.93	4.39	495.72
1983	1,838.88	28.00	65.67	4.73	310.61
1984	1,154.61	28.00	41.23	5.08	209.47
1985	3,295.34	28.00	117.69	5.44	639.97
1986	2,488.21	28.00	88.86	5.81	515.90
1987	3,346.71	28.00	119.52	6.18	739.01
1988	3,033.67	28.00	108.34	6.57	711.78
1989	2,242.89	28.00	80.10	6.97	558.04
1990	6,845.72	28.00	244.48	7.37	1,802.72
1991	11,729.30	28.00	418.89	7.79	3,263.64
1992	18,428.84	28.00	658.15	8.22	5,409.58
1993	53,175.04	28.00	1,899.03	8.66	16,442.87
1994	88,392.31	28.00	3,156.73	9.11	28,755.31
1995	34,661.11	28.00	1,237.84	9.57	11,847.84
1996	38,794.34	28.00	1,385.45	10.05	13,916.90
1997	68,298.22	28.00	2,439.12	10.53	25,686.43
1998	201,700.12	28.00	7,203.27	11.03	79,442.99
1999	530,778.35	28.00	18,955.57	11.54	218,735.20
2000	342,748.43	28.00	12,240.50	12.06	147,648.01
2001	463,610.95	28.00	16,556.83	12.60	208,572.18
2002	260,660.81	28.00	9,308.92	13.15	122,368.82
2003	335,583.15	28.00	11,984.61	13.71	164,251.97

FE 2024 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 28 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2004	555,752.62	28.00	19,847.47	14.28	283,383.34
2005	432,921.65	28.00	15,460.83	14.86	229,782.90
2006	651,100.88	28.00	23,252.62	15.46	359,463.27
2007	271,566.04	28.00	9,698.38	16.07	155,817.54
2008	387,285.73	28.00	13,831.05	16.69	230,778.89
2009	418,179.07	28.00	14,934.34	17.31	258,586.43
2010	540,819.91	28.00	19,314.18	17.95	346,756.99
2011	890,035.31	28.00	31,785.63	18.60	591,265.71
2012	624,884.44	28.00	22,316.36	19.26	429,758.28
2013	795,189.02	28.00	28,398.41	19.92	565,741.09
2014	628,134.87	28.00	22,432.44	20.59	461,932.39
2015	659,581.45	28.00	23,555.48	21.27	500,992.28
2016	668,829.36	28.00	23,885.75	21.95	524,313.45
2017	840,428.42	28.00	30,014.03	22.64	679,462.42
2018	627,866.36	28.00	22,422.85	23.33	523,155.45
2019	737,389.85	28.00	26,334.24	24.03	632,813.79
2020	661,730.38	28.00	23,632.23	24.74	584,562.04
2021	475,157.93	28.00	16,969.21	25.45	431,828.39
2022	751,865.98	28.00	26,851.22	26.17	702,635.18
2023	1,084,134.91	28.00	38,717.47	26.90	1,041,312.70
2024	719,343.73	28.00	25,689.76	27.63	709,814.58
Total	16,309,454.66	20.91	575,445.62	19.65	11,307,217.51

Composite Average Remaining Life ... 19.65 Years

FE 2024 Study - Metropolitan Edison
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 20 **Survivor Curve:** S0

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2015	997.07	20.00	49.85	13.20	657.96
2016	141,106.73	20.00	7,055.22	13.78	97,205.78
2017	571,463.03	20.00	28,572.67	14.38	410,862.84
2018	618,828.90	20.00	30,940.92	15.00	464,231.82
2019	334,178.20	20.00	16,708.63	15.66	261,584.48
2020	512,083.66	20.00	25,603.75	16.34	418,328.86
2021	394,673.45	20.00	19,733.34	17.06	336,625.98
2022	122,618.93	20.00	6,130.84	17.82	109,252.24
2023	721,004.89	20.00	36,049.63	18.64	671,850.68
2024	391,481.13	20.00	19,573.72	19.52	382,069.64
Total	3,808,435.99	20.00	190,418.57	16.56	3,152,670.28

Composite Average Remaining Life ... 16.56 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1904	69.28	75.00	0.92	1.54	1.43
1908	904.08	75.00	12.05	2.45	29.48
1921	26.62	75.00	0.35	5.75	2.04
1930	98.98	75.00	1.32	8.12	10.71
1931	608.47	75.00	8.11	8.40	68.15
1932	325.59	75.00	4.34	8.68	37.68
1940	105.63	75.00	1.41	11.23	15.81
1942	28.24	75.00	0.38	11.96	4.50
1943	1,423,322.28	75.00	18,977.63	12.34	234,242.74
1944	28,517.33	75.00	380.23	12.74	4,843.59
1945	80,533.28	75.00	1,073.78	13.15	14,115.48
1946	124,850.81	75.00	1,664.68	13.56	22,580.42
1947	151,003.07	75.00	2,013.37	14.00	28,182.07
1948	129,668.51	75.00	1,728.91	14.44	24,967.79
1949	122,814.60	75.00	1,637.53	14.90	24,394.51
1950	88,644.99	75.00	1,181.93	15.37	18,164.84
1951	155,766.99	75.00	2,076.89	15.85	32,919.75
1952	154,106.35	75.00	2,054.75	16.34	33,583.11
1953	199,396.55	75.00	2,658.62	16.85	44,809.45
1954	295,163.96	75.00	3,935.52	17.37	68,375.78
1955	235,325.32	75.00	3,137.67	17.91	56,180.91
1956	172,589.35	75.00	2,301.19	18.45	42,464.87
1957	170,890.22	75.00	2,278.54	19.01	43,315.30
1958	191,989.29	75.00	2,559.86	19.58	50,116.97
1959	220,233.48	75.00	2,936.45	20.16	59,206.16
1960	270,234.57	75.00	3,603.13	20.75	74,782.28
1961	309,027.67	75.00	4,120.37	21.36	88,001.52

FE 2024 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1962	206,758.28	75.00	2,756.78	21.98	60,584.28
1963	307,932.18	75.00	4,105.76	22.60	92,800.08
1964	223,083.10	75.00	2,974.44	23.24	69,120.50
1965	166,918.03	75.00	2,225.57	23.89	53,166.68
1966	173,075.94	75.00	2,307.68	24.55	56,644.88
1967	188,909.13	75.00	2,518.79	25.21	63,505.31
1968	168,064.11	75.00	2,240.85	25.89	58,022.79
1969	222,760.80	75.00	2,970.14	26.58	78,945.01
1970	188,958.54	75.00	2,519.45	27.27	68,716.21
1971	168,230.78	75.00	2,243.08	27.98	62,766.43
1972	290,535.79	75.00	3,873.81	28.70	111,161.46
1973	220,725.65	75.00	2,943.01	29.42	86,573.91
1974	244,817.66	75.00	3,264.24	30.15	98,417.57
1975	171,247.48	75.00	2,283.30	30.89	70,528.25
1976	188,859.28	75.00	2,518.12	31.63	79,659.63
1977	227,075.83	75.00	3,027.68	32.39	98,072.04
1978	364,445.89	75.00	4,859.28	33.15	161,103.89
1979	252,373.79	75.00	3,364.98	33.92	114,149.68
1980	202,123.51	75.00	2,694.98	34.70	93,522.88
1981	330,463.03	75.00	4,406.17	35.49	156,361.68
1982	233,683.70	75.00	3,115.78	36.28	113,033.89
1983	278,253.15	75.00	3,710.04	37.08	137,564.93
1984	354,912.95	75.00	4,732.17	37.88	179,276.71
1985	311,964.38	75.00	4,159.52	38.70	160,959.09
1986	348,843.52	75.00	4,651.25	39.52	183,808.85
1987	527,587.52	75.00	7,034.50	40.34	283,800.45
1988	405,974.09	75.00	5,412.99	41.18	222,885.20

FE 2024 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1989	396,839.13	75.00	5,291.19	42.02	222,321.26
1990	172,340.89	75.00	2,297.88	42.86	98,493.05
1991	234,417.50	75.00	3,125.57	43.71	136,630.10
1992	1,216,023.06	75.00	16,213.64	44.57	722,701.28
1993	664,913.91	75.00	8,865.52	45.44	402,827.31
1994	369,871.97	75.00	4,931.63	46.31	228,368.32
1995	103,931.62	75.00	1,385.75	47.18	65,386.27
1996	555,624.27	75.00	7,408.32	48.07	356,088.56
1997	87,911.67	75.00	1,172.16	48.95	57,380.08
1998	3,733.80	75.00	49.78	49.85	2,481.58
2003	251,087.08	75.00	3,347.83	54.39	182,082.22
2009	896.66	75.00	11.96	59.99	717.21
2010	1,582.81	75.00	21.10	60.94	1,286.06
2019	48,751.39	75.00	650.02	69.61	45,246.33
Total	15,602,749.38	75.00	208,036.64	31.26	6,502,579.26

Composite Average Remaining Life ... 31.26 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1892	7,180.16	0.00	0.00	0.00	0.00
1902	2,367.44	0.00	0.00	0.00	0.00
1904	239.50	65.00	3.68	0.50	1.84
1908	10,557.66	65.00	162.43	1.12	182.09
1912	2,250.85	65.00	34.63	2.15	74.47
1913	2,599.70	65.00	40.00	2.44	97.52
1914	173.66	65.00	2.67	2.69	7.19
1917	8,336.26	65.00	128.25	3.51	450.09
1920	55,666.75	65.00	856.41	4.28	3,665.44
1921	924.41	65.00	14.22	4.51	64.08
1922	18,095.13	65.00	278.39	4.75	1,321.02
1923	34,333.30	65.00	528.20	4.96	2,618.83
1924	38,762.11	65.00	596.34	5.19	3,094.66
1925	86,363.93	65.00	1,328.67	5.40	7,169.73
1926	31,678.79	65.00	487.37	5.63	2,741.44
1927	6,984.14	65.00	107.45	5.83	626.53
1928	6,238.75	65.00	95.98	6.05	580.35
1929	11,003.20	65.00	169.28	6.27	1,061.72
1930	14,229.40	65.00	218.91	6.49	1,420.76
1931	11,091.60	65.00	170.64	6.72	1,146.68
1932	1,534.84	65.00	23.61	6.94	163.91
1934	1,366.02	65.00	21.02	7.40	155.58
1935	1,637.71	65.00	25.20	7.64	192.58
1936	1,319.85	65.00	20.31	7.87	159.90
1937	4,805.31	65.00	73.93	8.12	600.39
1938	1,029.30	65.00	15.84	8.36	132.37
1939	156.70	65.00	2.41	8.61	20.76

FE 2024 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1940	1,252.77	65.00	19.27	8.86	170.76
1941	9,791.30	65.00	150.64	9.12	1,373.14
1942	34,707.58	65.00	533.96	9.38	5,009.14
1943	13,819.66	65.00	212.61	9.65	2,051.38
1944	6,565.37	65.00	101.01	9.93	1,002.70
1945	17,743.42	65.00	272.98	10.21	2,786.87
1946	27,986.13	65.00	430.56	10.50	4,522.37
1947	19,514.97	65.00	300.23	10.80	3,243.40
1948	52,355.53	65.00	805.47	11.12	8,953.23
1949	46,529.84	65.00	715.84	11.44	8,185.78
1950	31,548.51	65.00	485.36	11.77	5,711.79
1951	70,070.78	65.00	1,078.01	12.11	13,054.95
1952	93,372.66	65.00	1,436.50	12.47	17,906.79
1953	188,336.80	65.00	2,897.49	12.83	37,180.90
1954	110,380.88	65.00	1,698.17	13.21	22,435.73
1955	119,778.10	65.00	1,842.74	13.60	25,068.39
1956	41,185.21	65.00	633.62	14.01	8,876.73
1957	87,031.91	65.00	1,338.95	14.43	19,317.89
1958	140,398.95	65.00	2,159.98	14.86	32,097.83
1959	83,362.20	65.00	1,282.49	15.30	19,628.14
1960	161,528.50	65.00	2,485.05	15.76	39,175.68
1961	256,233.35	65.00	3,942.05	16.24	64,001.02
1962	233,799.45	65.00	3,596.91	16.72	60,149.62
1963	225,110.98	65.00	3,463.24	17.22	59,636.35
1964	388,542.20	65.00	5,977.56	17.73	106,004.57
1965	286,627.91	65.00	4,409.65	18.26	80,505.89
1966	276,095.18	65.00	4,247.61	18.80	79,841.56

FE 2024 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	256,024.06	65.00	3,938.83	19.35	76,208.87
1968	95,409.10	65.00	1,467.83	19.91	29,224.40
1969	47,221.05	65.00	726.48	20.49	14,882.51
1970	289,248.11	65.00	4,449.97	21.07	93,766.42
1971	30,536.95	65.00	469.80	21.67	10,180.88
1972	250,774.93	65.00	3,858.07	22.28	85,952.45
1973	398,464.88	65.00	6,130.22	22.90	140,384.79
1974	140,317.27	65.00	2,158.72	23.53	50,794.06
1975	297,054.27	65.00	4,570.06	24.17	110,470.64
1976	154,175.89	65.00	2,371.93	24.82	58,876.50
1977	100,706.48	65.00	1,549.33	25.49	39,485.02
1978	512,190.86	65.00	7,879.85	26.15	206,088.94
1979	404,931.06	65.00	6,229.70	26.84	167,180.55
1980	337,004.43	65.00	5,184.68	27.53	142,713.03
1981	1,115,153.29	65.00	17,156.18	28.22	484,199.95
1982	497,217.62	65.00	7,649.49	28.93	221,304.60
1983	74,662.10	65.00	1,148.65	29.64	34,051.26
1984	211,777.77	65.00	3,258.12	30.37	98,946.22
1985	138,800.95	65.00	2,135.40	31.10	66,409.64
1986	218,819.33	65.00	3,366.45	31.84	107,188.05
1987	119,520.44	65.00	1,838.77	32.59	59,918.25
1988	28,826.52	65.00	443.48	33.34	14,786.76
1989	112,864.96	65.00	1,736.38	34.10	59,216.08
1990	98,113.75	65.00	1,509.44	34.87	52,640.86
1991	73,202.55	65.00	1,126.19	35.65	40,148.54
1992	42,917.50	65.00	660.27	36.44	24,057.29
1993	232,597.35	65.00	3,578.42	37.23	133,215.06

FE 2024 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	42,150.54	65.00	648.47	38.02	24,657.90
1995	49,577.47	65.00	762.73	38.83	29,617.05
1996	218,791.79	65.00	3,366.02	39.64	133,432.69
1997	154,682.72	65.00	2,379.73	40.46	96,283.67
1998	283,127.55	65.00	4,355.80	41.28	179,822.42
2000	43,963.91	65.00	676.37	42.95	29,050.59
2001	10,514.17	65.00	161.76	43.79	7,084.09
2002	19,039.08	65.00	292.91	44.64	13,076.18
2004	2,800.32	65.00	43.08	46.36	1,997.15
2005	7,628.32	65.00	117.36	47.22	5,542.15
2006	422,238.29	65.00	6,495.97	48.10	312,426.95
2008	61,594.18	65.00	947.60	49.85	47,240.92
2009	158,759.21	65.00	2,442.45	50.74	123,926.93
2010	631,833.66	65.00	9,720.50	51.63	501,874.11
2011	617,709.78	65.00	9,503.21	52.53	499,161.16
2012	481,636.78	65.00	7,409.79	53.43	395,877.46
2013	655,694.98	65.00	10,087.60	54.33	548,060.90
2014	822,584.39	65.00	12,655.13	55.24	699,063.31
2015	473,799.58	65.00	7,289.21	56.15	409,301.06
2016	328,199.40	65.00	5,049.21	57.07	288,153.63
2017	131,226.62	65.00	2,018.87	57.99	117,071.64
2018	917,252.87	65.00	14,111.56	58.91	831,362.84
2019	273,412.51	65.00	4,206.34	59.84	251,713.57
2020	368,678.07	65.00	5,671.96	60.77	344,697.51
2021	470,137.24	65.00	7,232.87	61.71	446,316.65
2022	74,409.84	65.00	1,144.77	62.64	71,712.36
2023	976,521.81	65.00	15,023.39	63.58	955,253.29

FE 2024 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	73,946.52	65.00	1,137.64	64.53	73,408.58
Total	18,435,041.68	63.81	283,468.76	38.15	10,815,120.95

Composite Average Remaining Life ... 38.15 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
361.10 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	24,461.40	65.00	376.33	47.22	17,771.78
2008	112,008.89	65.00	1,723.21	49.85	85,907.52
2009	0.53	65.00	0.01	50.74	0.41
2010	83,034.47	65.00	1,277.45	51.63	65,955.41
2011	59,714.64	65.00	918.69	52.53	48,254.42
2013	108,511.05	65.00	1,669.40	54.33	90,698.67
2014	35,843.54	65.00	551.44	55.24	30,461.20
2016	1,536.11	65.00	23.63	57.07	1,348.68
2017	2,085.59	65.00	32.09	57.99	1,860.62
Total	427,196.22	65.00	6,572.24	52.08	342,258.73

Composite Average Remaining Life ... 52.08 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1912	285.18	62.00	4.60	3.96	18.22
1913	368.33	62.00	5.94	4.23	25.16
1914	91.86	62.00	1.48	4.48	6.63
1915	0.01	62.00	0.00	4.72	0.00
1916	47.16	62.00	0.76	4.94	3.76
1917	590.50	62.00	9.52	5.16	49.17
1918	1,120.22	62.00	18.07	5.39	97.47
1919	255.71	62.00	4.12	5.61	23.15
1920	2,233.89	62.00	36.03	5.85	210.84
1921	1,969.80	62.00	31.77	6.08	193.04
1922	4,819.05	62.00	77.73	6.31	490.47
1923	14,514.26	62.00	234.10	6.56	1,535.38
1924	13,790.45	62.00	222.42	6.80	1,512.74
1925	35,224.27	62.00	568.13	7.05	4,006.64
1926	172,510.17	62.00	2,782.39	7.31	20,348.06
1927	112,230.94	62.00	1,810.16	7.57	13,707.02
1928	4,960.24	62.00	80.00	7.84	627.50
1929	89,230.32	62.00	1,439.18	8.11	11,671.52
1930	38,411.80	62.00	619.54	8.38	5,193.44
1931	59,088.03	62.00	953.02	8.66	8,256.77
1932	50,946.82	62.00	821.71	8.94	7,348.38
1933	4,089.55	62.00	65.96	9.23	608.93
1934	595.43	62.00	9.60	9.52	91.39
1935	9,495.81	62.00	153.16	9.81	1,501.99
1936	21,459.96	62.00	346.12	10.10	3,497.43
1937	32,112.15	62.00	517.93	10.40	5,386.99
1938	11,876.59	62.00	191.56	10.71	2,050.90

FE 2024 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 62 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1939	7,622.77	62.00	122.95	11.01	1,353.62
1940	30,844.09	62.00	497.48	11.32	5,630.90
1941	86,184.65	62.00	1,390.06	11.64	16,173.98
1942	224,901.57	62.00	3,627.41	11.95	43,357.96
1943	111,558.04	62.00	1,799.30	12.28	22,088.97
1944	42,815.00	62.00	690.56	12.61	8,705.61
1945	102,945.89	62.00	1,660.40	12.94	21,486.25
1946	279,924.64	62.00	4,514.86	13.28	59,966.95
1947	143,164.75	62.00	2,309.08	13.63	31,466.88
1948	252,470.89	62.00	4,072.07	13.98	56,926.79
1949	664,896.16	62.00	10,724.02	14.34	153,779.27
1950	677,988.32	62.00	10,935.18	14.71	160,805.86
1951	978,262.82	62.00	15,778.26	15.08	237,921.11
1952	626,922.16	62.00	10,111.54	15.46	156,314.86
1953	1,854,169.82	62.00	29,905.64	15.85	473,911.60
1954	1,576,665.71	62.00	25,429.82	16.24	413,043.06
1955	1,440,469.20	62.00	23,233.12	16.65	386,735.26
1956	322,060.42	62.00	5,194.47	17.06	88,603.39
1957	1,330,930.56	62.00	21,466.39	17.48	375,156.79
1958	1,513,612.19	62.00	24,412.84	17.90	437,094.30
1959	1,222,257.03	62.00	19,713.61	18.34	361,539.77
1960	1,500,993.09	62.00	24,209.30	18.78	454,753.94
1961	2,418,162.54	62.00	39,002.20	19.24	750,290.01
1962	2,790,461.62	62.00	45,006.96	19.70	886,529.91
1963	2,249,749.98	62.00	36,285.90	20.17	731,800.94
1964	3,207,728.08	62.00	51,736.99	20.64	1,068,090.06
1965	2,601,010.39	62.00	41,951.33	21.13	886,512.15

FE 2024 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1966	2,234,951.05	62.00	36,047.21	21.63	779,603.71
1967	2,424,703.91	62.00	39,107.70	22.13	865,445.75
1968	1,332,333.61	62.00	21,489.02	22.64	486,562.11
1969	1,141,138.85	62.00	18,405.27	23.16	426,286.13
1970	3,333,409.10	62.00	53,764.08	23.69	1,273,708.88
1971	2,104,459.88	62.00	33,942.53	24.23	822,360.22
1972	2,530,199.25	62.00	40,809.22	24.77	1,010,916.26
1973	3,300,667.71	62.00	53,236.00	25.33	1,348,239.91
1974	2,440,087.94	62.00	39,355.83	25.89	1,018,808.97
1975	3,099,549.27	62.00	49,992.19	26.46	1,322,555.27
1976	2,129,187.56	62.00	34,341.36	27.03	928,341.81
1977	822,954.92	62.00	13,273.32	27.62	366,555.05
1978	3,893,380.29	62.00	62,795.78	28.21	1,771,416.84
1979	4,067,933.95	62.00	65,611.13	28.81	1,890,212.93
1980	1,976,149.68	62.00	31,873.04	29.42	937,559.12
1981	6,033,327.25	62.00	97,310.67	30.03	2,922,302.93
1982	4,572,997.50	62.00	73,757.22	30.65	2,260,710.64
1983	772,959.92	62.00	12,466.96	31.28	389,972.83
1984	2,303,822.35	62.00	37,158.02	31.92	1,185,957.98
1985	2,482,507.11	62.00	40,040.00	32.56	1,303,615.95
1986	4,135,040.67	62.00	66,693.48	33.21	2,214,740.29
1987	2,693,788.35	62.00	43,447.73	33.86	1,471,296.33
1988	1,724,251.85	62.00	27,810.21	34.52	960,142.65
1989	3,539,622.50	62.00	57,090.07	35.19	2,009,208.15
1990	2,246,168.34	62.00	36,228.13	35.87	1,299,387.46
1991	3,720,688.88	62.00	60,010.46	36.55	2,193,265.67
1992	3,119,367.52	62.00	50,311.83	37.23	1,873,340.00

FE 2024 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1993	4,451,718.90	62.00	71,801.14	37.93	2,723,104.08
1994	2,368,690.99	62.00	38,204.28	38.62	1,475,590.94
1995	3,022,678.25	62.00	48,752.35	39.33	1,917,201.99
1996	4,642,277.20	62.00	74,874.63	40.03	2,997,556.31
1997	6,689,713.68	62.00	107,897.44	40.75	4,396,600.38
1998	6,975,884.17	62.00	112,513.04	41.47	4,665,388.04
1999	965,977.52	62.00	15,580.11	42.19	657,309.26
2000	2,198,151.91	62.00	35,453.68	42.92	1,521,513.09
2001	6,507,406.89	62.00	104,957.04	43.65	4,581,238.74
2002	1,434,399.10	62.00	23,135.22	44.39	1,026,876.34
2003	1,005,352.15	62.00	16,215.18	45.13	731,726.50
2004	4,282,504.47	62.00	69,071.90	45.87	3,168,458.84
2005	3,603,769.87	62.00	58,124.69	46.62	2,709,856.42
2006	10,710,990.86	62.00	172,756.04	47.37	8,184,177.27
2007	5,717,091.95	62.00	92,210.16	48.13	4,438,248.40
2008	4,634,070.35	62.00	74,742.26	48.89	3,654,307.37
2009	6,132,696.61	62.00	98,913.39	49.66	4,911,819.08
2010	8,450,918.56	62.00	136,303.66	50.43	6,873,371.74
2011	21,607,583.09	62.00	348,505.63	51.20	17,843,126.56
2012	9,983,927.03	62.00	161,029.34	51.98	8,369,656.89
2013	9,194,380.30	62.00	148,294.85	52.76	7,823,349.02
2014	9,769,687.14	62.00	157,573.89	53.54	8,436,539.38
2015	8,153,706.53	62.00	131,509.97	54.33	7,144,736.26
2016	11,414,946.38	62.00	184,110.04	55.12	10,148,054.05
2017	9,773,545.59	62.00	157,636.12	55.92	8,814,307.35
2018	17,205,946.14	62.00	277,512.25	56.71	15,739,095.50
2019	13,043,074.55	62.00	210,369.89	57.52	12,099,952.91

FE 2024 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2020	13,483,938.04	62.00	217,480.51	58.32	12,684,469.71
2021	9,292,112.50	62.00	149,871.16	59.13	8,862,532.71
2022	13,120,028.38	62.00	211,611.07	59.95	12,685,892.01
2023	28,428,565.90	62.00	458,520.29	60.77	27,862,993.74
2024	39,860,379.63	62.00	642,902.38	61.59	39,595,242.79
Total	401,242,854.72	62.00	6,471,588.79	46.74	302,455,310.65

Composite Average Remaining Life ... *46.74 Years*

FE 2024 Study - Pennsylvania Electric
Electric Division
362.10 Station Equipment - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	5,567.09	62.00	89.79	48.13	4,321.80
2008	3,999.55	62.00	64.51	48.89	3,153.94
2009	21,815.20	62.00	351.85	49.66	17,472.30
2010	875,111.94	62.00	14,114.56	50.43	711,753.36
2011	735,721.12	62.00	11,866.34	51.20	607,544.35
2012	333,588.49	62.00	5,380.40	51.98	279,651.60
2013	14,698.94	62.00	237.08	52.76	12,507.09
2014	293,116.37	62.00	4,727.63	53.54	253,118.42
2015	766,697.55	62.00	12,365.96	54.33	671,823.52
2016	563,892.27	62.00	9,094.94	55.12	501,308.46
2017	1,697,037.29	62.00	27,371.27	55.92	1,530,479.20
2018	3,058,803.21	62.00	49,335.00	56.71	2,798,032.46
2019	677,036.50	62.00	10,919.83	57.52	628,081.19
2020	1,061,153.73	62.00	17,115.20	58.32	998,237.48
2021	622,935.34	62.00	10,047.24	59.13	594,136.68
2022	605,741.20	62.00	9,769.91	59.95	585,697.47
2023	223,477.85	62.00	3,604.44	60.77	219,031.87
2024	26.33	62.00	0.42	61.59	26.15
Total	11,560,419.97	62.00	186,456.37	55.86	10,416,377.35

Composite Average Remaining Life ... 55.86 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	649,132.69	65.00	9,986.66	7.15	71,370.90
1944	93,705.76	65.00	1,441.63	7.43	10,712.82
1945	151,541.70	65.00	2,331.41	7.72	17,989.90
1946	271,807.93	65.00	4,181.66	8.01	33,515.98
1947	224,170.28	65.00	3,448.77	8.32	28,682.60
1948	390,161.37	65.00	6,002.48	8.63	51,818.97
1949	253,854.18	65.00	3,905.45	8.95	34,972.13
1950	570,377.59	65.00	8,775.04	9.29	81,531.31
1951	684,614.79	65.00	10,532.54	9.64	101,492.76
1952	837,454.51	65.00	12,883.92	10.00	128,782.34
1953	1,011,439.25	65.00	15,560.60	10.37	161,301.19
1954	1,234,943.71	65.00	18,999.13	10.75	204,249.74
1955	1,230,055.57	65.00	18,923.93	11.15	210,970.31
1956	1,040,436.16	65.00	16,006.71	11.56	185,046.41
1957	1,209,201.25	65.00	18,603.10	11.99	222,977.24
1958	1,231,866.97	65.00	18,951.80	12.43	235,517.60
1959	1,677,273.43	65.00	25,804.21	12.88	332,386.50
1960	1,956,819.86	65.00	30,104.92	13.35	401,957.74
1961	2,261,942.11	65.00	34,799.11	13.83	481,432.56
1962	1,973,199.89	65.00	30,356.92	14.34	435,174.10
1963	2,513,339.86	65.00	38,666.77	14.85	574,077.00
1964	2,134,709.08	65.00	32,841.68	15.38	505,006.24
1965	2,160,326.20	65.00	33,235.79	15.92	529,011.90
1966	2,224,189.06	65.00	34,218.29	16.48	563,783.74
1967	1,645,208.38	65.00	25,310.90	17.05	431,490.06
1968	1,598,705.12	65.00	24,595.46	17.63	433,633.88
1969	1,991,955.07	65.00	30,645.46	18.23	558,651.30

FE 2024 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	2,208,573.85	65.00	33,978.06	18.84	640,102.53
1971	2,230,992.75	65.00	34,322.97	19.46	668,050.11
1972	2,699,569.05	65.00	41,531.83	20.10	834,696.73
1973	2,969,942.05	65.00	45,691.42	20.75	947,979.80
1974	2,554,899.15	65.00	39,306.14	21.41	841,353.05
1975	1,610,236.26	65.00	24,772.87	22.08	546,939.06
1976	2,097,280.72	65.00	32,265.86	22.76	734,309.93
1977	2,354,276.43	65.00	36,219.64	23.45	849,463.57
1978	2,719,160.69	65.00	41,833.24	24.15	1,010,444.02
1979	3,127,709.41	65.00	48,118.61	24.87	1,196,701.89
1980	2,638,553.93	65.00	40,593.14	25.59	1,038,938.60
1981	5,053,756.04	65.00	77,750.09	26.33	2,046,841.03
1982	4,599,169.63	65.00	70,756.46	27.07	1,915,318.16
1983	5,192,721.59	65.00	79,888.03	27.82	2,222,439.74
1984	5,868,858.37	65.00	90,290.13	28.58	2,580,577.20
1985	6,643,818.15	65.00	102,212.59	29.35	2,999,809.54
1986	7,773,712.31	65.00	119,595.58	30.13	3,603,139.70
1987	10,000,008.40	65.00	153,846.28	30.91	4,755,743.50
1988	9,210,567.11	65.00	141,701.03	31.71	4,493,066.43
1989	9,249,192.92	65.00	142,295.28	32.51	4,625,863.78
1990	7,841,690.65	65.00	120,641.40	33.32	4,019,875.95
1991	14,931,715.29	65.00	229,718.70	34.14	7,841,995.30
1992	8,816,973.38	65.00	135,645.75	34.96	4,742,853.11
1993	23,479,984.41	65.00	361,230.53	35.80	12,931,728.27
1994	16,813,770.33	65.00	258,673.39	36.64	9,477,629.90
1995	20,949,375.93	65.00	322,298.10	37.49	12,082,428.86
1996	11,877,923.70	65.00	182,737.29	38.34	7,006,695.91

FE 2024 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	13,426,463.65	65.00	206,560.98	39.21	8,098,498.39
1998	20,902,075.47	65.00	321,570.40	40.07	12,886,867.68
1999	14,336,338.31	65.00	220,559.05	40.95	9,032,306.97
2000	12,553,826.12	65.00	193,135.79	41.83	8,079,562.44
2001	9,290,516.18	65.00	142,931.02	42.72	6,106,551.82
2002	3,978,697.77	65.00	61,210.74	43.62	2,669,896.10
2003	5,102,889.87	65.00	78,506.00	44.52	3,495,141.24
2004	7,909,890.33	65.00	121,690.62	45.43	5,528,035.46
2005	13,557,083.51	65.00	208,570.52	46.34	9,665,411.89
2006	12,692,784.83	65.00	195,273.62	47.26	9,228,680.93
2007	6,353,242.36	65.00	97,742.19	48.18	4,709,590.08
2008	16,161,579.34	65.00	248,639.69	49.11	12,211,528.28
2009	12,866,428.01	65.00	197,945.05	50.05	9,906,530.83
2010	14,840,384.05	65.00	228,313.60	50.99	11,640,822.35
2011	43,640,722.72	65.00	671,395.74	51.93	34,864,779.04
2012	17,551,357.79	65.00	270,020.89	52.88	14,277,858.75
2013	14,330,819.58	65.00	220,474.15	53.83	11,867,663.04
2014	14,343,327.56	65.00	220,666.58	54.78	12,088,986.40
2015	10,008,579.57	65.00	153,978.15	55.74	8,583,130.61
2016	14,927,904.51	65.00	229,660.07	56.71	13,023,032.57
2017	14,058,629.19	65.00	216,286.61	57.67	12,473,461.91
2018	17,013,622.81	65.00	261,748.05	58.64	15,349,022.93
2019	20,189,399.89	65.00	310,606.16	59.61	18,515,978.99
2020	30,888,166.63	65.00	475,202.57	60.59	28,790,931.40
2021	26,486,769.20	65.00	407,488.76	61.56	25,086,548.73
2022	29,367,771.99	65.00	451,811.88	62.54	28,257,578.93
2023	37,192,687.33	65.00	572,195.20	63.52	36,348,345.65

FE 2024 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	27,910,858.18	65.00	429,397.82	64.51	27,699,383.06
Total	710,619,681.02	65.00	10,932,610.61	46.12	504,168,649.39

Composite Average Remaining Life ... 46.12 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
364.20 Poles, Towers, and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	68,211.88	65.00	1,049.41	47.26	49,595.55
2008	0.07	65.00	0.00	49.11	0.05
2010	74,507.26	65.00	1,146.27	50.99	58,443.62
2012	3,663.40	65.00	56.36	52.88	2,980.14
2014	4,504.10	65.00	69.29	54.78	3,796.19
2016	28,691.93	65.00	441.41	56.71	25,030.70
2017	20,670.33	65.00	318.01	57.67	18,339.67
2018	37,268.45	65.00	573.36	58.64	33,622.13
2019	23,813.55	65.00	366.36	59.61	21,839.74
2020	74,381.46	65.00	1,144.33	60.59	69,331.13
2021	56,283.61	65.00	865.90	61.56	53,308.18
2022	12,527.61	65.00	192.73	62.54	12,054.03
2023	131,372.43	65.00	2,021.11	63.52	128,390.04
Total	535,896.08	65.00	8,244.56	57.82	476,731.17

Composite Average Remaining Life ... 57.82 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	2,822,108.53	60.00	47,034.27	16.41	771,652.81
1944	14,169.82	60.00	236.16	16.82	3,971.46
1945	139,794.80	60.00	2,329.87	17.23	40,145.46
1946	350,297.23	60.00	5,838.18	17.65	103,021.85
1947	461,482.65	60.00	7,691.23	18.06	138,938.55
1948	399,911.70	60.00	6,665.07	18.49	123,208.67
1949	423,962.86	60.00	7,065.92	18.91	133,616.00
1950	386,302.96	60.00	6,438.26	19.34	124,495.74
1951	549,377.15	60.00	9,156.12	19.77	180,989.50
1952	514,658.15	60.00	8,577.48	20.20	173,266.06
1953	862,805.48	60.00	14,379.82	20.64	296,749.11
1954	1,422,913.28	60.00	23,714.78	21.08	499,817.05
1955	1,485,830.61	60.00	24,763.38	21.52	532,888.01
1956	1,023,335.84	60.00	17,055.28	21.97	374,631.15
1957	999,790.64	60.00	16,662.87	22.42	373,506.37
1958	980,906.20	60.00	16,348.13	22.87	373,867.04
1959	1,399,257.24	60.00	23,320.52	23.33	543,981.37
1960	1,706,863.25	60.00	28,447.19	23.79	676,676.20
1961	2,054,386.22	60.00	34,239.13	24.25	830,346.48
1962	2,407,210.74	60.00	40,119.43	24.72	991,740.62
1963	3,086,405.74	60.00	51,439.14	25.19	1,295,840.23
1964	2,950,166.06	60.00	49,168.52	25.67	1,262,020.50
1965	2,278,092.20	60.00	37,967.50	26.15	992,736.00
1966	2,903,021.96	60.00	48,382.80	26.63	1,288,457.03
1967	1,850,447.99	60.00	30,840.23	27.12	836,309.35
1968	1,696,159.91	60.00	28,268.81	27.61	780,468.86
1969	2,202,778.38	60.00	36,712.29	28.10	1,031,735.37

FE 2024 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	2,368,040.07	60.00	39,466.60	28.60	1,128,845.69
1971	2,680,073.33	60.00	44,667.06	29.11	1,300,059.67
1972	3,237,197.71	60.00	53,952.29	29.61	1,597,650.02
1973	3,563,927.57	60.00	59,397.69	30.12	1,789,202.11
1974	2,663,948.86	60.00	44,398.32	30.64	1,360,231.40
1975	1,697,403.83	60.00	28,289.54	31.15	881,344.31
1976	2,017,774.00	60.00	33,628.94	31.68	1,065,256.28
1977	2,336,530.90	60.00	38,941.46	32.20	1,254,019.08
1978	2,722,909.83	60.00	45,380.99	32.73	1,485,414.50
1979	3,361,693.58	60.00	56,027.19	33.26	1,863,727.68
1980	3,713,372.24	60.00	61,888.39	33.80	2,091,924.53
1981	7,161,794.63	60.00	119,361.03	34.34	4,098,971.98
1982	6,299,501.04	60.00	104,989.73	34.89	3,662,569.08
1983	6,124,000.74	60.00	102,064.78	35.43	3,616,390.66
1984	6,983,118.50	60.00	116,383.15	35.98	4,187,783.63
1985	8,546,412.46	60.00	142,437.56	36.54	5,204,093.14
1986	8,067,145.65	60.00	134,449.93	37.09	4,987,149.26
1987	11,364,357.85	60.00	189,402.44	37.65	7,131,403.20
1988	8,600,086.54	60.00	143,332.11	38.22	5,477,493.32
1989	8,971,811.54	60.00	149,527.41	38.78	5,798,875.39
1990	10,421,700.77	60.00	173,691.78	39.35	6,834,756.29
1991	18,313,556.39	60.00	305,220.27	39.92	12,184,616.05
1992	4,366,196.46	60.00	72,768.59	40.49	2,946,741.30
1993	19,183,533.31	60.00	319,719.61	41.07	13,130,952.14
1994	13,436,239.58	60.00	223,933.16	41.65	9,326,618.66
1995	15,298,808.39	60.00	254,975.40	42.23	10,767,621.23
1996	13,046,855.07	60.00	217,443.54	42.81	9,309,388.86

FE 2024 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	15,215,680.51	60.00	253,589.96	43.40	11,005,137.14
1998	12,208,253.30	60.00	203,467.11	43.98	8,949,336.28
1999	9,528,354.54	60.00	158,802.96	44.57	7,078,168.52
2000	10,746,262.44	60.00	179,101.05	45.16	8,088,620.83
2001	7,017,956.42	60.00	116,963.77	45.75	5,351,559.18
2002	6,489,880.20	60.00	108,162.66	46.35	5,013,007.85
2003	7,161,093.99	60.00	119,349.35	46.94	5,602,364.71
2004	12,547,803.36	60.00	209,126.17	47.54	9,941,120.26
2005	30,332,514.84	60.00	505,532.52	48.13	24,332,590.71
2006	32,460,365.35	60.00	540,996.04	48.73	26,363,014.41
2007	20,443,668.37	60.00	340,721.47	49.33	16,807,572.56
2008	35,781,291.98	60.00	596,343.78	49.93	29,774,647.27
2009	31,307,026.81	60.00	521,774.08	50.53	26,365,082.26
2010	30,884,875.93	60.00	514,738.37	51.13	26,319,447.60
2011	23,439,538.58	60.00	390,651.72	51.73	20,210,071.72
2012	24,865,153.10	60.00	414,411.52	52.34	21,689,746.60
2013	24,497,139.73	60.00	408,278.07	52.94	21,615,945.15
2014	24,315,465.72	60.00	405,250.23	53.55	21,701,471.99
2015	24,218,769.86	60.00	403,638.66	54.16	21,860,426.92
2016	25,107,320.88	60.00	418,447.57	54.77	22,917,417.70
2017	29,114,973.23	60.00	485,240.54	55.38	26,871,509.07
2018	30,961,529.18	60.00	516,015.90	55.99	28,891,633.40
2019	32,519,665.33	60.00	541,984.35	56.60	30,678,029.94
2020	40,128,681.70	60.00	668,798.93	57.22	38,267,202.00
2021	39,907,391.50	60.00	665,110.83	57.83	38,465,724.30
2022	41,761,346.15	60.00	696,009.50	58.45	40,682,573.08
2023	41,952,553.25	60.00	699,196.23	59.07	41,301,240.60

FE 2024 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	53,208,731.12	60.00	886,795.70	59.69	52,933,076.35
Total	952,043,715.80	60.00	15,867,100.38	49.05	778,335,914.74

Composite Average Remaining Life ... 49.05 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	276,300.72	75.00	3,683.99	8.36	30,794.08
1944	20,486.86	75.00	273.16	8.71	2,380.16
1945	107,339.22	75.00	1,431.18	9.09	13,002.93
1946	210,713.68	75.00	2,809.50	9.47	26,614.78
1947	144,126.33	75.00	1,921.68	9.88	18,985.51
1948	166,991.30	75.00	2,226.54	10.30	22,941.46
1949	200,632.29	75.00	2,675.08	10.75	28,747.26
1950	135,824.68	75.00	1,810.99	11.21	20,309.39
1951	162,822.30	75.00	2,170.95	11.70	25,400.00
1952	195,558.90	75.00	2,607.44	12.21	31,825.57
1953	243,367.43	75.00	3,244.88	12.74	41,341.73
1954	377,075.82	75.00	5,027.65	13.29	66,823.46
1955	270,316.47	75.00	3,604.20	13.86	49,959.43
1956	233,666.88	75.00	3,115.54	14.46	45,049.56
1957	192,556.75	75.00	2,567.41	15.07	38,691.31
1958	227,254.01	75.00	3,030.04	15.70	47,561.35
1959	326,489.25	75.00	4,353.17	16.34	71,152.21
1960	336,506.34	75.00	4,486.73	17.00	76,278.99
1961	321,699.24	75.00	4,289.30	17.67	75,781.88
1962	163,406.12	75.00	2,178.74	18.35	39,978.39
1963	330,161.45	75.00	4,402.13	19.04	83,798.91
1964	196,609.42	75.00	2,621.45	19.73	51,722.86
1965	156,894.18	75.00	2,091.91	20.44	42,757.11
1966	137,118.43	75.00	1,828.24	21.15	38,673.39
1967	70,774.57	75.00	943.66	21.88	20,643.67
1968	102,298.42	75.00	1,363.97	22.61	30,844.62
1969	165,061.79	75.00	2,200.81	23.36	51,405.30

FE 2024 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	141,862.30	75.00	1,891.49	24.11	45,604.08
1971	156,090.82	75.00	2,081.20	24.88	51,775.72
1972	202,431.27	75.00	2,699.07	25.65	69,235.76
1973	262,565.44	75.00	3,500.86	26.43	92,544.52
1974	202,768.03	75.00	2,703.56	27.23	73,624.92
1975	121,236.63	75.00	1,616.48	28.04	45,320.57
1976	147,459.20	75.00	1,966.11	28.85	56,721.51
1977	153,514.20	75.00	2,046.85	29.68	60,743.28
1978	152,886.75	75.00	2,038.48	30.51	62,193.07
1979	138,237.00	75.00	1,843.15	31.35	57,784.79
1980	112,340.58	75.00	1,497.87	32.21	48,239.77
1981	167,148.56	75.00	2,228.64	33.07	73,691.85
1982	230,983.79	75.00	3,079.77	33.93	104,509.04
1983	300,892.83	75.00	4,011.88	34.81	139,669.78
1984	237,671.89	75.00	3,168.94	35.70	113,128.70
1985	383,851.81	75.00	5,118.00	36.59	187,275.38
1986	631,805.32	75.00	8,424.03	37.49	315,853.13
1987	587,781.72	75.00	7,837.05	38.40	300,956.56
1988	517,842.93	75.00	6,904.54	39.32	271,455.47
1989	370,484.02	75.00	4,939.76	40.24	198,767.71
1990	361,599.66	75.00	4,821.31	41.17	198,469.93
1991	798,090.31	75.00	10,641.15	42.10	447,965.71
1992	397,909.84	75.00	5,305.44	43.04	228,332.34
1993	618,050.92	75.00	8,240.64	43.98	362,429.93
1994	201,812.65	75.00	2,690.82	44.93	120,895.28
1995	683,550.18	75.00	9,113.96	45.88	418,175.68
1996	466,314.77	75.00	6,217.50	46.84	291,228.37

FE 2024 Study - Pennsylvania Electric
Electric Division
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	254,639.18	75.00	3,395.17	47.80	162,292.45
1998	140,621.23	75.00	1,874.94	48.77	91,434.94
1999	518,033.29	75.00	6,907.08	49.74	343,524.03
2000	675,798.13	75.00	9,010.60	50.71	456,893.71
2001	848,566.30	75.00	11,314.16	51.68	584,732.18
2002	618,166.45	75.00	8,242.18	52.66	434,020.29
2003	688.60	75.00	9.18	53.64	492.46
2005	67,151.14	75.00	895.34	55.60	49,784.57
2006	7,380,103.20	75.00	98,400.90	56.59	5,568,440.22
2007	1,244,906.81	75.00	16,598.68	57.58	955,703.28
2008	21,747,370.73	75.00	289,963.53	58.57	16,981,969.24
2009	19,774,272.02	75.00	263,655.67	59.56	15,702,267.35
2010	15,854,093.88	75.00	211,386.89	60.55	12,798,989.66
2011	9,051,231.56	75.00	120,682.50	61.54	7,426,823.80
2012	101,420.92	75.00	1,352.27	62.53	84,562.46
2013	40,775,500.03	75.00	543,670.68	63.53	34,538,400.75
2014	9,832,998.60	75.00	131,106.01	64.52	8,459,387.98
2015	9,532,521.12	75.00	127,099.66	65.52	8,327,443.70
2016	19,331,812.84	75.00	257,756.25	66.52	17,144,796.34
2017	9,147,203.86	75.00	121,962.12	67.51	8,233,960.35
2018	34,031,266.10	75.00	453,748.00	68.51	31,086,170.33
2019	27,868,237.24	75.00	371,574.68	69.51	25,827,276.28
2020	23,751,932.01	75.00	316,690.88	70.51	22,328,521.42
2021	15,810,753.30	75.00	210,809.02	71.50	15,073,710.86
2023	599,335.09	75.00	7,991.10	73.50	587,359.12

FE 2024 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	283,177,859.90	75.00	3,775,686.38	63.24	238,779,015.93

Composite Average Remaining Life ... *63.24 Years*

FE 2024 Study - Pennsylvania Electric
Electric Division
365.20 OH Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1998	301.81	60.00	5.03	43.98	221.24
2004	21,790.27	60.00	363.16	47.54	17,263.56
2005	63,298.87	60.00	1,054.96	48.13	50,778.03
2006	49,203.23	60.00	820.04	48.73	39,960.90
2010	50,378.45	60.00	839.63	51.13	42,931.47
2013	20,577.69	60.00	342.96	52.94	18,157.48
2014	128,028.85	60.00	2,133.77	53.55	114,265.32
2015	42,608.75	60.00	710.13	54.16	38,459.65
2016	180,319.47	60.00	3,005.27	54.77	164,591.70
2017	55,068.99	60.00	917.80	55.38	50,825.63
2018	20,127.97	60.00	335.46	55.99	18,782.34
2019	2,841.43	60.00	47.36	56.60	2,680.52
2020	19,796.23	60.00	329.93	57.22	18,877.93
2022	5,802.18	60.00	96.70	58.45	5,652.30
2023	90,049.61	60.00	1,500.80	59.07	88,651.59
2024	0.23	60.00	0.00	59.69	0.23
Total	750,194.03	60.00	12,503.00	53.76	672,099.88

Composite Average Remaining Life ... 53.76 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
365.30 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	88.32	75.00	1.18	57.58	67.80
2013	28,148.97	75.00	375.32	63.53	23,843.25
2016	8,920.01	75.00	118.93	66.52	7,910.89
Total	37,157.30	75.00	495.43	64.23	31,821.94

Composite Average Remaining Life ... 64.23 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	802,873.80	65.00	12,351.88	11.31	139,753.35
1945	3,522.02	65.00	54.18	12.01	650.67
1947	100,829.38	65.00	1,551.22	12.73	19,747.04
1948	2,523.62	65.00	38.82	13.10	508.70
1949	192,569.28	65.00	2,962.60	13.48	39,941.10
1950	52,656.41	65.00	810.10	13.87	11,235.85
1951	109,852.21	65.00	1,690.03	14.27	24,109.08
1952	72,035.51	65.00	1,108.24	14.67	16,257.46
1953	79,512.72	65.00	1,223.27	15.08	18,450.12
1954	54,805.93	65.00	843.17	15.50	13,072.72
1955	92,219.77	65.00	1,418.76	15.93	22,607.15
1956	62,133.65	65.00	955.90	16.37	15,651.90
1957	81,571.60	65.00	1,254.94	16.82	21,110.39
1959	113,270.63	65.00	1,742.62	17.75	30,923.34
1960	233,285.05	65.00	3,588.99	18.22	65,397.29
1961	114,524.03	65.00	1,761.90	18.71	32,957.10
1962	106,837.69	65.00	1,643.65	19.20	31,558.66
1963	102,093.50	65.00	1,570.67	19.70	30,945.53
1964	135,791.82	65.00	2,089.10	20.22	42,232.64
1965	274,628.27	65.00	4,225.04	20.74	87,608.71
1966	585,232.04	65.00	9,003.55	21.27	191,484.20
1967	711,086.77	65.00	10,939.77	21.81	238,572.45
1968	535,271.58	65.00	8,234.93	22.36	184,097.31
1969	698,359.69	65.00	10,743.97	22.91	246,187.16
1970	624,824.25	65.00	9,612.66	23.48	225,699.85
1971	788,864.50	65.00	12,136.35	24.06	291,947.47
1972	899,676.53	65.00	13,841.15	24.64	341,023.30

FE 2024 Study - Pennsylvania Electric
Electric Division
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Original Cost Of Utility Plant In Service
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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	1,030,438.87	65.00	15,852.87	25.23	400,001.12
1974	871,232.22	65.00	13,403.54	25.83	346,237.58
1975	512,583.75	65.00	7,885.89	26.44	208,524.00
1976	523,378.09	65.00	8,051.95	27.06	217,877.51
1977	502,230.86	65.00	7,726.61	27.69	213,923.68
1978	511,232.41	65.00	7,865.10	28.32	222,732.20
1979	526,749.03	65.00	8,103.81	28.96	234,711.10
1980	339,906.69	65.00	5,229.32	29.61	154,860.32
1981	449,556.60	65.00	6,916.24	30.27	209,361.89
1982	416,885.36	65.00	6,413.61	30.94	198,421.11
1983	322,982.72	65.00	4,968.95	31.61	157,067.91
1984	381,871.40	65.00	5,874.93	32.29	189,710.69
1985	401,639.68	65.00	6,179.06	32.98	203,776.54
1986	670,272.33	65.00	10,311.86	33.68	347,252.54
1987	688,578.53	65.00	10,593.49	34.38	364,165.57
1988	770,871.32	65.00	11,859.53	35.09	416,117.82
1989	587,031.30	65.00	9,031.23	35.80	323,339.37
1990	800,426.55	65.00	12,314.23	36.53	449,803.45
1991	1,350,850.35	65.00	20,782.27	37.26	774,258.94
1992	1,203,640.13	65.00	18,517.50	37.99	703,554.87
1993	1,698,005.69	65.00	26,123.11	38.74	1,011,955.43
1994	836,682.32	65.00	12,872.01	39.49	508,278.31
1995	1,510,512.80	65.00	23,238.61	40.24	935,213.16
1996	607,131.29	65.00	9,340.46	41.01	383,011.08
1997	1,164,655.86	65.00	17,917.74	41.77	748,513.46
1998	1,358,061.66	65.00	20,893.21	42.55	888,980.21
1999	599,781.74	65.00	9,227.39	43.33	399,826.09

FE 2024 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2000	1,828,776.22	65.00	28,134.96	44.12	1,241,199.19
2001	1,401,283.60	65.00	21,558.16	44.91	968,162.59
2002	934,855.95	65.00	14,382.37	45.71	657,365.38
2003	8,912.82	65.00	137.12	46.51	6,377.62
2004	10,420.85	65.00	160.32	47.32	7,586.26
2005	27,995.59	65.00	430.70	48.14	20,731.92
2006	28,131.10	65.00	432.79	48.96	21,187.44
2007	5,113.80	65.00	78.67	49.78	3,916.46
2008	9,968.11	65.00	153.36	50.61	7,761.66
2009	3,201.20	65.00	49.25	51.45	2,533.75
2011	1,928,505.26	65.00	29,669.25	53.13	1,576,459.42
2012	442,837.69	65.00	6,812.87	53.99	367,799.70
2013	297,781.65	65.00	4,581.25	54.84	251,239.51
2014	203,073.95	65.00	3,124.21	55.70	174,024.66
2015	325,234.94	65.00	5,003.60	56.57	283,034.75
2016	89,462.69	65.00	1,376.35	57.44	79,052.64
2017	275,497.10	65.00	4,238.41	58.31	247,140.43
2018	1,756,488.67	65.00	27,022.84	59.19	1,599,457.26
2019	919,591.70	65.00	14,147.53	60.07	849,872.77
2020	777,144.57	65.00	11,956.04	60.96	728,825.46
2021	1,179,358.09	65.00	18,143.93	61.85	1,122,206.31
2022	1,091,319.70	65.00	16,789.50	62.74	1,053,455.78
2023	4,012,944.97	65.00	61,737.48	63.64	3,929,249.59
2024	949,825.23	65.00	14,612.66	64.55	943,202.55

FE 2024 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	46,775,767.25	65.00	719,625.63	41.32	29,737,049.59

Composite Average Remaining Life ... 41.32 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1962	10.27	44.00	0.23	4.73	1.10
1963	108.43	44.00	2.46	4.97	12.24
1964	168.82	44.00	3.84	5.20	19.93
1965	11,497.23	44.00	261.30	5.43	1,420.03
1966	58,190.59	44.00	1,322.51	5.68	7,510.61
1967	118,720.25	44.00	2,698.18	5.93	15,999.73
1968	503,467.35	44.00	11,442.41	6.18	70,741.51
1969	436,991.50	44.00	9,931.60	6.45	64,035.11
1970	576,830.80	44.00	13,109.75	6.72	88,135.08
1971	521,460.44	44.00	11,851.34	7.01	83,070.12
1972	730,831.08	44.00	16,609.75	7.31	121,339.63
1973	619,049.48	44.00	14,069.27	7.62	107,182.16
1974	678,232.97	44.00	15,414.34	7.95	122,488.53
1975	827,010.56	44.00	18,795.64	8.29	155,834.02
1976	651,849.51	44.00	14,814.72	8.65	128,183.93
1977	643,242.95	44.00	14,619.12	9.03	132,053.17
1978	761,226.21	44.00	17,300.55	9.43	163,181.13
1979	864,458.69	44.00	19,646.73	9.85	193,553.46
1980	1,057,189.61	44.00	24,026.97	10.29	247,245.50
1981	691,733.81	44.00	15,721.18	10.75	168,980.89
1982	1,107,426.37	44.00	25,168.71	11.23	282,555.44
1983	1,060,473.20	44.00	24,101.60	11.73	282,619.61
1984	944,231.48	44.00	21,459.75	12.24	262,742.20
1985	829,501.60	44.00	18,852.26	12.78	240,922.69
1986	1,270,535.45	44.00	28,875.73	13.34	385,081.99
1987	1,932,621.32	44.00	43,923.09	13.91	610,918.46
1988	2,927,682.97	44.00	66,538.07	14.50	964,727.94

FE 2024 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1989	3,275,800.44	44.00	74,449.80	15.11	1,124,596.61
1990	3,281,298.76	44.00	74,574.77	15.73	1,173,083.01
1991	4,348,019.36	44.00	98,818.35	16.37	1,617,552.03
1992	5,630,537.76	44.00	127,966.41	17.02	2,178,272.61
1993	5,586,690.11	44.00	126,969.88	17.69	2,246,044.60
1994	3,691,233.86	44.00	83,891.45	18.37	1,541,344.50
1995	6,730,736.25	44.00	152,970.86	19.07	2,916,837.78
1996	5,240,092.22	44.00	119,092.68	19.78	2,355,100.93
1997	6,157,114.85	44.00	139,934.04	20.49	2,867,946.47
1998	4,951,581.19	44.00	112,535.63	21.23	2,389,024.47
1999	3,229,672.85	44.00	73,401.45	21.97	1,612,831.16
2000	3,056,528.57	44.00	69,466.37	22.73	1,578,802.00
2001	2,773,575.89	44.00	63,035.64	23.50	1,481,028.21
2002	1,877,592.43	44.00	42,672.44	24.27	1,035,749.73
2003	3,697,839.57	44.00	84,041.58	25.06	2,106,032.05
2004	3,208,454.37	44.00	72,919.22	25.86	1,885,455.13
2005	4,036,161.08	44.00	91,730.68	26.67	2,446,071.89
2006	4,255,856.79	44.00	96,723.75	27.48	2,658,273.62
2007	2,360,808.55	44.00	53,654.59	28.31	1,518,950.03
2008	3,898,614.92	44.00	88,604.64	29.15	2,582,528.33
2009	3,131,308.88	44.00	71,165.91	29.99	2,134,381.24
2010	4,145,571.35	44.00	94,217.27	30.85	2,906,135.33
2011	13,990,751.22	44.00	317,970.74	31.71	10,081,776.82
2012	8,297,847.33	44.00	188,586.92	32.58	6,143,653.77
2013	6,276,623.39	44.00	142,650.14	33.45	4,772,337.21
2014	7,233,318.83	44.00	164,393.16	34.34	5,645,199.84
2015	9,107,352.15	44.00	206,984.71	35.23	7,292,357.54

FE 2024 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	7,194,145.92	44.00	163,502.87	36.13	5,907,513.66
2017	7,427,941.03	44.00	168,816.38	37.04	6,252,301.09
2018	9,301,720.11	44.00	211,402.15	37.95	8,022,137.76
2019	7,915,526.66	44.00	179,897.84	38.86	6,991,585.58
2020	8,448,952.15	44.00	192,021.11	39.79	7,640,059.81
2021	12,083,726.44	44.00	274,629.39	40.72	11,181,646.10
2022	11,011,227.83	44.00	250,254.49	41.65	10,422,611.38
2023	11,056,836.23	44.00	251,291.04	42.59	10,701,460.39
2024	15,664,246.26	44.00	356,004.61	43.53	15,496,063.63
Total	243,400,048.54	44.00	5,531,804.03	29.97	165,807,302.57

Composite Average Remaining Life ... 29.97 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
367.10 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	3,221.73	44.00	73.22	27.48	2,012.34
2007	855.78	44.00	19.45	28.31	550.61
2008	989.89	44.00	22.50	29.15	655.72
2009	7.03	44.00	0.16	29.99	4.79
2012	19,278.06	44.00	438.14	32.58	14,273.31
2013	65,089.93	44.00	1,479.31	33.45	49,490.16
2014	86,367.01	44.00	1,962.88	34.34	67,404.61
2015	871.02	44.00	19.80	35.23	697.44
2016	1,503.27	44.00	34.17	36.13	1,234.42
2017	48,576.37	44.00	1,104.01	37.04	40,888.06
2018	79.43	44.00	1.81	37.95	68.50
2019	0.18	44.00	0.00	38.86	0.16
2020	371,258.94	44.00	8,437.68	39.79	335,715.06
2021	385,924.43	44.00	8,770.99	40.72	357,114.21
2022	8,142.49	44.00	185.06	41.65	7,707.22
2023	294,018.51	44.00	6,682.22	42.59	284,568.51
Total	1,286,184.07	44.00	29,231.38	39.76	1,162,385.13

Composite Average Remaining Life ... 39.76 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	1,235.38	0.00	0.00	0.00	0.00
1943	15,246.62	44.00	346.51	2.33	806.32
1944	1,312.05	44.00	29.82	2.65	78.91
1945	806.68	44.00	18.33	2.95	54.17
1946	3,495.73	44.00	79.45	3.25	257.97
1947	6,240.97	44.00	141.84	3.54	502.71
1948	4,300.93	44.00	97.75	3.84	375.47
1949	69,198.73	44.00	1,572.66	4.14	6,510.14
1950	90,570.46	44.00	2,058.37	4.43	9,125.37
1951	240,456.80	44.00	5,464.79	4.74	25,885.93
1952	139,069.21	44.00	3,160.59	5.04	15,944.05
1953	220,931.94	44.00	5,021.06	5.36	26,897.32
1954	239,054.27	44.00	5,432.92	5.67	30,796.06
1955	282,798.07	44.00	6,427.07	5.99	38,496.66
1956	315,794.67	44.00	7,176.97	6.32	45,332.10
1957	555,505.39	44.00	12,624.81	6.65	83,892.96
1958	700,581.50	44.00	15,921.91	6.98	111,160.25
1959	737,249.36	44.00	16,755.25	7.32	122,710.05
1960	663,919.81	44.00	15,088.71	7.67	115,750.67
1961	697,083.59	44.00	15,842.41	8.02	127,093.61
1962	668,325.35	44.00	15,188.83	8.38	127,296.88
1963	819,524.76	44.00	18,625.10	8.75	162,883.94
1964	718,872.45	44.00	16,337.60	9.11	148,911.61
1965	925,175.64	44.00	21,026.20	9.49	199,552.59
1966	1,177,746.86	44.00	26,766.31	9.87	264,259.18
1967	1,157,492.88	44.00	26,306.00	10.26	269,930.63
1968	1,110,766.56	44.00	25,244.07	10.66	268,980.12

FE 2024 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	1,206,423.38	44.00	27,418.03	11.06	303,135.76
1970	1,334,632.40	44.00	30,331.80	11.46	347,707.60
1971	1,302,142.74	44.00	29,593.42	11.88	351,493.96
1972	1,460,202.39	44.00	33,185.59	12.30	408,115.90
1973	1,822,474.30	44.00	41,418.84	12.73	527,074.75
1974	1,750,006.35	44.00	39,771.88	13.16	523,393.20
1975	1,005,724.41	44.00	22,856.80	13.60	310,881.25
1976	1,400,058.90	44.00	31,818.73	14.05	447,058.57
1977	2,111,802.37	44.00	47,994.31	14.51	696,207.26
1978	2,372,951.40	44.00	53,929.37	14.97	807,278.66
1979	2,453,882.21	44.00	55,768.66	15.44	861,086.06
1980	2,029,796.76	44.00	46,130.60	15.92	734,335.03
1981	2,714,237.29	44.00	61,685.68	16.40	1,011,918.97
1982	3,127,895.47	44.00	71,086.76	16.90	1,201,214.89
1983	3,406,628.23	44.00	77,421.44	17.40	1,347,132.53
1984	4,468,117.08	44.00	101,545.59	17.91	1,818,603.11
1985	6,406,039.44	44.00	145,588.18	18.43	2,682,639.43
1986	7,409,203.53	44.00	168,386.80	18.95	3,191,247.74
1987	5,013,189.41	44.00	113,933.29	19.48	2,219,986.09
1988	6,698,229.31	44.00	152,228.70	20.03	3,048,509.86
1989	7,753,712.75	44.00	176,216.36	20.57	3,625,571.16
1990	6,420,177.78	44.00	145,909.50	21.13	3,083,384.98
1991	4,919,791.70	44.00	111,810.66	21.70	2,425,942.57
1992	6,663,397.80	44.00	151,437.09	22.27	3,372,389.87
1993	6,465,762.63	44.00	146,945.49	22.85	3,357,585.35
1994	5,562,154.21	44.00	126,409.45	23.44	2,962,783.58
1995	7,136,258.45	44.00	162,183.66	24.03	3,897,802.85

FE 2024 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	2,859,535.25	44.00	64,987.82	24.64	1,601,022.34
1997	5,454,369.01	44.00	123,959.85	25.25	3,129,393.04
1998	4,562,625.42	44.00	103,693.45	25.86	2,681,830.82
1999	5,275,566.07	44.00	119,896.24	26.49	3,175,630.39
2000	9,715,293.85	44.00	220,796.64	27.12	5,987,182.83
2001	7,110,055.86	44.00	161,588.16	27.75	4,484,603.17
2002	6,881,482.29	44.00	156,393.43	28.40	4,440,870.80
2003	7,601,525.07	44.00	172,757.63	29.04	5,017,446.12
2004	14,013,753.72	44.00	318,486.48	29.70	9,457,867.72
2005	19,361,796.46	44.00	440,029.88	30.36	13,357,275.75
2006	16,433,049.54	44.00	373,469.10	31.02	11,584,410.50
2007	10,844,751.68	44.00	246,465.49	31.69	7,809,439.30
2008	16,642,633.24	44.00	378,232.25	32.36	12,238,779.17
2009	13,660,943.71	44.00	310,468.27	33.03	10,255,810.79
2010	12,204,575.92	44.00	277,369.82	33.71	9,350,810.94
2011	33,000,470.36	44.00	749,992.02	34.39	25,795,880.78
2012	15,534,191.71	44.00	353,041.02	35.08	12,385,161.11
2013	10,570,757.70	44.00	240,238.51	35.77	8,593,510.69
2014	9,773,408.52	44.00	222,117.39	36.46	8,099,198.82
2015	7,786,516.72	44.00	176,961.88	37.16	6,575,923.07
2016	9,326,741.36	44.00	211,966.12	37.86	8,025,337.39
2017	9,209,992.33	44.00	209,312.80	38.57	8,072,394.20
2018	9,827,282.73	44.00	223,341.78	39.28	8,771,777.53
2019	13,279,920.23	44.00	301,808.86	39.99	12,068,865.56
2020	13,218,530.30	44.00	300,413.67	40.71	12,229,070.16
2021	14,434,310.61	44.00	328,044.35	41.43	13,590,992.16
2022	16,596,992.08	44.00	377,194.98	42.16	15,901,824.37

FE 2024 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	14,991,827.60	44.00	340,714.87	42.89	14,613,855.17
2024	18,930,371.33	44.00	430,225.00	43.63	18,770,717.72
Total	465,080,920.02	43.47	10,569,729.74	30.83	325,834,849.05

Composite Average Remaining Life ... 30.83 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	47,833.17	60.00	797.20	12.80	10,205.25
1944	1,791.46	60.00	29.86	13.18	393.53
1945	3,984.90	60.00	66.41	13.57	900.94
1946	8,317.88	60.00	138.63	13.95	1,934.36
1947	16,242.27	60.00	270.70	14.35	3,883.59
1948	28,178.68	60.00	469.64	14.74	6,924.49
1949	25,075.27	60.00	417.91	15.15	6,330.25
1950	26,957.21	60.00	449.28	15.55	6,988.31
1951	29,891.63	60.00	498.18	15.97	7,954.53
1952	31,363.51	60.00	522.71	16.38	8,564.15
1953	36,765.18	60.00	612.74	16.81	10,297.75
1954	35,613.24	60.00	593.54	17.23	10,228.62
1955	49,503.99	60.00	825.05	17.67	14,574.78
1956	180,541.14	60.00	3,008.96	18.10	54,470.33
1957	263,424.36	60.00	4,390.32	18.54	81,418.31
1958	247,515.03	60.00	4,125.17	18.99	78,348.98
1959	293,905.77	60.00	4,898.33	19.45	95,253.76
1960	351,812.26	60.00	5,863.42	19.90	116,709.60
1961	389,714.81	60.00	6,495.12	20.37	132,294.48
1962	473,269.35	60.00	7,887.67	20.84	164,362.25
1963	558,108.53	60.00	9,301.62	21.31	198,244.14
1964	555,242.09	60.00	9,253.85	21.79	201,668.56
1965	667,815.07	60.00	11,130.03	22.28	247,969.14
1966	635,444.34	60.00	10,590.53	22.77	241,158.16
1967	600,356.45	60.00	10,005.74	23.27	232,814.41
1968	562,319.91	60.00	9,371.81	23.77	222,782.69
1969	610,006.93	60.00	10,166.58	24.28	246,839.52

FE 2024 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	590,861.42	60.00	9,847.49	24.79	244,166.68
1971	676,329.65	60.00	11,271.94	25.32	285,356.76
1972	725,255.86	60.00	12,087.36	25.84	312,362.91
1973	783,415.29	60.00	13,056.66	26.37	344,352.37
1974	693,111.16	60.00	11,551.62	26.91	310,878.20
1975	641,655.69	60.00	10,694.05	27.45	293,602.21
1976	737,432.76	60.00	12,290.30	28.01	344,190.96
1977	769,734.23	60.00	12,828.65	28.56	366,398.63
1978	724,212.00	60.00	12,069.96	29.12	351,505.26
1979	722,849.34	60.00	12,047.25	29.69	357,666.75
1980	752,897.42	60.00	12,548.04	30.26	379,726.47
1981	1,158,713.42	60.00	19,311.51	30.84	595,546.21
1982	1,128,129.66	60.00	18,801.79	31.42	590,821.55
1983	989,588.09	60.00	16,492.81	32.01	527,995.35
1984	1,137,175.03	60.00	18,952.54	32.61	618,019.93
1985	1,102,013.22	60.00	18,366.52	33.21	609,926.27
1986	1,020,501.00	60.00	17,008.01	33.81	575,121.83
1987	961,540.42	60.00	16,025.36	34.42	551,664.04
1988	983,550.13	60.00	16,392.18	35.04	574,402.61
1989	875,420.31	60.00	14,590.05	35.66	520,320.77
1990	1,169,629.24	60.00	19,493.43	36.29	707,391.71
1991	1,563,603.92	60.00	26,059.55	36.92	962,085.15
1992	959,602.61	60.00	15,993.06	37.55	600,608.75
1993	2,733,766.85	60.00	45,561.88	38.19	1,740,137.52
1994	785,547.44	60.00	13,092.20	38.84	508,467.84
1995	1,211,369.50	60.00	20,189.09	39.49	797,184.52
1996	1,373,083.92	60.00	22,884.28	40.14	918,529.45

FE 2024 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	1,295,328.67	60.00	21,588.38	40.79	880,661.28
1998	2,385,791.30	60.00	39,762.40	41.45	1,648,273.84
1999	2,317,239.48	60.00	38,619.89	42.11	1,626,476.43
2000	1,607,070.10	60.00	26,783.97	42.78	1,145,865.78
2001	1,409,017.24	60.00	23,483.15	43.45	1,020,376.02
2002	1,388,394.07	60.00	23,139.44	44.12	1,020,999.42
2003	612,445.58	60.00	10,207.22	44.80	457,267.71
2004	22,050.47	60.00	367.50	45.48	16,712.66
2005	55,426.74	60.00	923.76	46.16	42,637.25
2006	840,337.95	60.00	14,005.35	46.84	656,005.23
2007	1,778,790.37	60.00	29,645.92	47.53	1,408,931.01
2008	1,384,772.86	60.00	23,079.09	48.21	1,112,697.70
2009	567,904.58	60.00	9,464.89	48.90	462,864.07
2010	711,899.31	60.00	11,864.75	49.60	588,451.70
2011	7,636,253.68	60.00	127,268.37	50.29	6,400,528.05
2012	2,079,251.87	60.00	34,653.51	50.99	1,767,008.05
2013	1,890,230.90	60.00	31,503.22	51.69	1,628,484.35
2014	1,465,054.07	60.00	24,417.08	52.40	1,279,390.28
2015	1,761,425.59	60.00	29,356.51	53.10	1,558,966.97
2016	2,442,193.58	60.00	40,702.42	53.82	2,190,438.88
2017	1,917,140.24	60.00	31,951.70	54.53	1,742,304.47
2018	2,307,728.11	60.00	38,461.37	55.25	2,124,897.03
2019	3,178,701.76	60.00	52,977.31	55.97	2,965,090.60
2020	2,912,605.35	60.00	48,542.46	56.69	2,752,061.45
2021	4,175,853.19	60.00	69,596.17	57.42	3,996,338.40
2022	3,963,345.99	60.00	66,054.45	58.15	3,841,348.58
2023	3,649,886.97	60.00	60,830.24	58.89	3,582,245.56

FE 2024 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	2,021,454.11	60.00	33,690.23	59.63	2,008,935.47
Total	91,479,578.14	60.00	1,524,629.34	44.15	67,318,203.86

Composite Average Remaining Life ... 44.15 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	891.26	60.00	14.85	12.80	190.15
1948	3,348.74	60.00	55.81	14.74	822.90
1949	5,928.62	60.00	98.81	15.15	1,496.68
1950	5,392.25	60.00	89.87	15.55	1,397.87
1951	3,703.76	60.00	61.73	15.97	985.62
1952	5,066.27	60.00	84.44	16.38	1,383.40
1953	6,753.36	60.00	112.55	16.81	1,891.58
1954	12,214.06	60.00	203.56	17.23	3,508.05
1955	6,746.94	60.00	112.45	17.67	1,986.41
1956	11,257.69	60.00	187.62	18.10	3,396.51
1957	10,034.85	60.00	167.24	18.54	3,101.54
1958	8,932.09	60.00	148.87	18.99	2,827.38
1959	8,741.35	60.00	145.69	19.45	2,833.04
1960	9,747.87	60.00	162.46	19.90	3,233.74
1961	5,427.59	60.00	90.46	20.37	1,842.48
1962	8,999.08	60.00	149.98	20.84	3,125.30
1963	9,267.84	60.00	154.46	21.31	3,292.00
1964	9,749.13	60.00	162.48	21.79	3,540.97
1965	20,813.67	60.00	346.89	22.28	7,728.41
1966	298,444.80	60.00	4,973.98	22.77	113,263.11
1967	471,783.79	60.00	7,862.91	23.27	182,954.75
1968	571,150.16	60.00	9,518.98	23.77	226,281.10
1969	529,450.14	60.00	8,823.99	24.28	214,242.19
1970	506,950.52	60.00	8,449.01	24.79	209,491.47
1971	372,809.26	60.00	6,213.36	25.32	157,295.55
1972	425,360.27	60.00	7,089.20	25.84	183,199.86
1973	470,428.86	60.00	7,840.33	26.37	206,778.32

FE 2024 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1974	454,234.84	60.00	7,570.43	26.91	203,736.02
1975	413,872.64	60.00	6,897.74	27.45	189,375.58
1976	465,240.01	60.00	7,753.85	28.01	217,147.13
1977	523,047.30	60.00	8,717.28	28.56	248,974.00
1978	578,773.96	60.00	9,646.04	29.12	280,915.11
1979	830,455.36	60.00	13,840.65	29.69	410,910.35
1980	603,843.81	60.00	10,063.86	30.26	304,550.76
1981	565,656.83	60.00	9,427.43	30.84	290,731.75
1982	539,935.31	60.00	8,998.74	31.42	282,773.72
1983	633,071.79	60.00	10,550.99	32.01	337,775.86
1984	862,892.34	60.00	14,381.25	32.61	468,955.66
1985	380,899.85	60.00	6,348.20	33.21	210,814.92
1986	764,161.98	60.00	12,735.78	33.81	430,657.33
1987	948,008.94	60.00	15,799.84	34.42	543,900.64
1988	1,039,519.96	60.00	17,324.99	35.04	607,089.52
1989	1,027,579.99	60.00	17,125.99	35.66	610,759.43
1990	1,531,054.55	60.00	25,517.07	36.29	925,981.72
1991	2,084,144.74	60.00	34,735.06	36.92	1,282,373.80
1992	342,511.74	60.00	5,708.42	37.55	214,375.77
1993	3,473,725.04	60.00	57,894.27	38.19	2,211,146.60
1994	1,053,335.11	60.00	17,555.24	38.84	681,801.00
1995	3,082,176.49	60.00	51,368.59	39.49	2,028,335.18
1996	2,171,600.44	60.00	36,192.62	40.14	1,452,699.97
1997	2,653,231.48	60.00	44,219.65	40.79	1,803,865.15
1998	2,419,053.64	60.00	40,316.76	41.45	1,671,253.82
1999	3,713,599.73	60.00	61,892.10	42.11	2,606,585.33
2000	2,415,235.44	60.00	40,253.12	42.78	1,722,100.14

FE 2024 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	2,700,963.35	60.00	45,015.16	43.45	1,955,971.97
2002	2,833,463.20	60.00	47,223.45	44.12	2,083,676.64
2003	1,217,630.34	60.00	20,293.44	44.80	909,114.30
2006	463,815.83	60.00	7,730.11	46.84	362,075.29
2007	812,200.53	60.00	13,536.41	47.53	643,321.74
2008	677,871.11	60.00	11,297.63	48.21	544,685.45
2013	1,119.85	60.00	18.66	51.69	964.78
Total	48,077,321.74	60.00	801,272.77	37.79	30,281,486.78

Composite Average Remaining Life ... 37.79 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	19,170.54	15.00	1,278.04	4.92	6,281.66
2013	14,118.46	15.00	941.23	5.43	5,109.80
2014	111,418.85	15.00	7,427.92	5.99	44,513.68
2015	6,926,803.31	15.00	461,786.90	6.61	3,052,702.53
2016	35,501,831.46	15.00	2,366,788.85	7.29	17,243,931.69
2017	34,492,861.47	15.00	2,299,524.19	8.02	18,447,782.52
2018	29,708,505.70	15.00	1,980,567.12	8.82	17,467,881.57
2019	9,899,423.28	15.00	659,961.58	9.67	6,384,634.66
2020	6,897,225.24	15.00	459,815.03	10.58	4,865,473.78
2021	6,020,896.85	15.00	401,393.14	11.53	4,628,025.78
2022	5,454,427.35	15.00	363,628.50	12.51	4,547,980.28
2023	5,516,058.64	15.00	367,737.26	13.50	4,964,742.86
2024	5,473,046.87	15.00	364,869.81	14.50	5,290,614.00
Total	146,035,788.02	15.00	9,735,719.57	8.93	86,949,674.81

Composite Average Remaining Life ... 8.93 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1900	47,396.58	0.00	0.00	0.00	0.00
1952	4,304.37	0.00	0.00	0.00	0.00
1953	63.56	0.00	0.00	0.00	0.00
1954	248.41	0.00	0.00	0.00	0.00
1957	42.14	0.00	0.00	0.00	0.00
1958	738.28	0.00	0.00	0.00	0.00
1959	40.52	0.00	0.00	0.00	0.00
1960	5,137.23	0.00	0.00	0.00	0.00
1961	17,922.85	0.00	0.00	0.00	0.00
1962	29,660.21	0.00	0.00	0.00	0.00
1963	107,519.55	0.00	0.00	0.00	0.00
1964	49,611.29	0.00	0.00	0.00	0.00
1965	67,486.47	30.00	2,249.43	0.50	1,124.71
1966	78,196.20	30.00	2,606.40	0.82	2,147.09
1967	235.42	30.00	7.85	1.27	9.97
1968	915.25	30.00	30.51	1.73	52.68
1971	234.47	30.00	7.82	3.06	23.95
1973	260.58	30.00	8.69	3.91	33.93
1974	12,740.78	30.00	424.67	4.31	1,831.97
1976	653.83	30.00	21.79	5.12	111.51
1977	687.79	30.00	22.93	5.51	126.38
1978	1,454.90	30.00	48.49	5.91	286.51
1979	26,027.43	30.00	867.53	6.30	5,468.60
1980	14,891.30	30.00	496.35	6.70	3,325.17
1981	269,915.25	30.00	8,996.69	7.10	63,854.20
1982	381,260.61	30.00	12,708.00	7.50	95,292.06
1983	352,765.47	30.00	11,758.21	7.90	92,919.49

FE 2024 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1984	427,655.31	30.00	14,254.41	8.31	118,468.43
1985	472,578.37	30.00	15,751.76	8.72	137,420.88
1986	629,108.77	30.00	20,969.16	9.14	191,703.93
1987	765,747.70	30.00	25,523.54	9.57	244,159.31
1988	847,460.16	30.00	28,247.14	10.00	282,355.26
1989	1,045,982.40	30.00	34,864.19	10.43	363,704.22
1990	2,620,165.53	30.00	87,334.13	10.87	949,746.53
1991	842,694.02	30.00	28,088.28	11.32	318,088.00
1992	431,092.72	30.00	14,368.98	11.78	169,289.51
1993	695,648.54	30.00	23,187.03	12.25	283,944.69
1994	682,917.80	30.00	22,762.70	12.72	289,485.33
1995	2,590,636.03	30.00	86,349.86	13.20	1,139,570.14
1996	2,128,263.50	30.00	70,938.28	13.68	970,733.17
1997	2,964,720.78	30.00	98,818.68	14.18	1,401,143.84
1998	2,460,947.78	30.00	82,027.16	14.68	1,204,307.48
1999	68,845.05	30.00	2,294.71	15.19	34,861.47
2000	215,303.80	30.00	7,176.41	15.71	112,740.83
2001	112,406.44	30.00	3,746.68	16.24	60,830.05
2003	155,316.20	30.00	5,176.93	17.31	89,604.09
2004	358,178.91	30.00	11,938.65	17.86	213,171.12
2005	414,539.51	30.00	13,817.24	18.41	254,360.83
2006	504,394.83	30.00	16,812.25	18.97	318,903.65
2007	145,512.25	30.00	4,850.15	19.53	94,744.76
2008	160,500.52	30.00	5,349.73	20.11	107,558.43
2009	165,452.85	30.00	5,514.80	20.68	114,053.35
2010	425,047.88	30.00	14,167.50	21.26	301,232.09
2011	1,449,816.84	30.00	48,324.61	21.85	1,055,739.02

FE 2024 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	628,669.11	30.00	20,954.50	22.43	470,113.80
2013	442,064.45	30.00	14,734.68	23.03	339,289.58
2014	601,699.27	30.00	20,055.56	23.62	473,725.72
2015	263,409.33	30.00	8,779.84	24.22	212,621.97
2016	131,325.43	30.00	4,377.28	24.82	108,626.03
2017	139,676.01	30.00	4,655.62	25.42	118,329.76
2018	124,208.42	30.00	4,140.06	26.02	107,721.82
2019	181,440.86	30.00	6,047.70	26.62	161,019.39
2020	145,360.20	30.00	4,845.08	27.23	131,944.28
2021	120,301.13	30.00	4,009.82	27.84	111,645.26
2022	131,897.39	30.00	4,396.34	28.46	125,103.57
2023	145,588.34	30.00	4,852.68	29.07	141,078.14
Total	28,306,985.17	24.55	934,759.44	14.54	13,589,747.94

Composite Average Remaining Life ... 14.54 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
371.21 Installations - Meter Socket Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	213,010.45	25.00	8,520.35	4.94	42,131.34
1998	10,728.04	25.00	429.12	5.33	2,288.68
Total	223,738.49	25.00	8,949.47	4.96	44,420.02

Composite Average Remaining Life ... 4.96 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
372.00 Leased Property on Customer Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 40 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1948	335.18	0.00	0.00	0.00	0.00
1949	2,134.65	0.00	0.00	0.00	0.00
1950	102.34	0.00	0.00	0.00	0.00
1951	1,809.13	0.00	0.00	0.00	0.00
1952	175.35	0.00	0.00	0.00	0.00
1953	178.68	0.00	0.00	0.00	0.00
1954	8.19	0.00	0.00	0.00	0.00
1956	4,065.11	0.00	0.00	0.00	0.00
1957	71.78	0.00	0.00	0.00	0.00
1960	1,914.20	40.00	47.85	0.81	38.75
1963	4,455.30	40.00	111.38	1.50	167.31
1965	14,198.77	40.00	354.97	1.99	707.38
1966	87.97	40.00	2.20	2.24	4.92
1967	3,448.43	40.00	86.21	2.50	215.41
1969	1,525.04	40.00	38.13	3.01	114.73
1971	1,949.76	40.00	48.74	3.52	171.67
1973	749.44	40.00	18.74	4.04	75.78
1976	819.15	40.00	20.48	4.88	99.95
1977	1,624.26	40.00	40.61	5.19	210.59
1978	51,610.51	40.00	1,290.26	5.50	7,101.96
1980	993.51	40.00	24.84	6.20	153.95
1983	5,270.38	40.00	131.76	7.40	974.58
1984	6,090.82	40.00	152.27	7.84	1,194.22
1985	12,547.43	40.00	313.69	8.31	2,607.13
1988	3,275.76	40.00	81.89	9.86	807.71
1991	6,061.78	40.00	151.54	11.62	1,760.68
1992	17,393.03	40.00	434.83	12.25	5,325.49

FE 2024 Study - Pennsylvania Electric
Electric Division
372.00 Leased Property on Customer Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *40* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	35,509.93	40.00	887.75	20.29	18,009.09
2006	17,907.26	40.00	447.68	22.78	10,196.33
Total	196,313.14	27.59	4,685.82	10.66	49,937.64

Composite Average Remaining Life ... 10.66 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	29,815.11	0.00	0.00	0.00	0.00
1985	124.86	20.00	6.24	0.50	3.12
1990	937.72	20.00	46.88	1.85	86.88
1991	1,650.44	20.00	82.52	2.15	177.07
1992	915.68	20.00	45.78	2.45	112.31
1993	142.12	20.00	7.11	2.77	19.66
1994	12,187.35	20.00	609.33	3.10	1,886.69
1995	50,746.36	20.00	2,537.15	3.44	8,715.19
1996	44,908.06	20.00	2,245.25	3.79	8,505.33
1997	33,042.65	20.00	1,652.02	4.15	6,860.31
1998	20,989.31	20.00	1,049.39	4.53	4,755.43
1999	819,256.66	20.00	40,960.06	4.92	201,668.88
2000	691,160.52	20.00	34,555.68	5.33	184,189.93
2001	703,361.24	20.00	35,165.68	5.75	202,255.75
2002	614,265.26	20.00	30,711.18	6.19	190,043.59
2003	64,683.82	20.00	3,233.97	6.64	21,475.90
2004	259,837.61	20.00	12,991.00	7.11	92,360.10
2005	337,244.48	20.00	16,861.08	7.60	128,062.01
2006	469,428.75	20.00	23,469.85	8.10	190,046.47
2007	241,229.20	20.00	12,060.64	8.62	103,937.90
2008	673,985.29	20.00	33,696.98	9.16	308,499.63
2009	594,754.42	20.00	29,735.71	9.71	288,752.94
2010	1,143,230.12	20.00	57,157.63	10.28	587,726.38
2011	4,037,178.26	20.00	201,845.24	10.87	2,194,511.73
2012	2,475,374.43	20.00	123,760.34	11.48	1,420,424.96
2013	1,582,101.00	20.00	79,099.69	12.10	956,982.54
2014	1,811,741.86	20.00	90,580.96	12.73	1,153,363.54

FE 2024 Study - Pennsylvania Electric
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	1,729,508.90	20.00	86,469.59	13.38	1,157,065.79
2016	1,853,083.12	20.00	92,647.88	14.04	1,300,779.93
2017	1,459,028.03	20.00	72,946.46	14.71	1,073,006.78
2018	1,878,323.58	20.00	93,909.82	15.39	1,444,977.96
2019	1,958,001.05	20.00	97,893.42	16.07	1,573,360.98
2020	1,936,922.44	20.00	96,839.56	16.77	1,623,531.54
2021	1,978,524.45	20.00	98,919.52	17.47	1,727,827.16
2022	1,920,250.60	20.00	96,006.02	18.18	1,745,156.31
2023	2,479,979.40	20.00	123,990.57	18.90	2,343,299.95
2024	3,133,446.94	20.00	156,661.73	19.63	3,075,381.16
Total	37,041,361.09	19.46	1,850,451.91	13.68	25,319,811.79

Composite Average Remaining Life ... 13.68 Years

FE 2024 Study - Pennsylvania Electric
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	654,014.59	20.00	32,698.51	14.04	459,088.45
2017	1,584,525.09	20.00	79,220.89	14.71	1,165,300.55
2018	1,206,357.43	20.00	60,313.78	15.39	928,040.26
2019	801,697.99	20.00	40,082.18	16.07	644,208.20
2020	771,506.53	20.00	38,572.71	16.77	646,678.03
2021	1,449,138.45	20.00	72,452.01	17.47	1,265,519.25
2022	846,079.67	20.00	42,301.12	18.18	768,931.55
2023	1,210,612.02	20.00	60,526.50	18.90	1,143,891.39
2024	1,511,828.60	20.00	75,586.31	19.63	1,483,812.96
Total	10,035,760.37	20.00	501,754.02	16.95	8,505,470.64

Composite Average Remaining Life ... 16.95 Years

FE 2024 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1910	40.70	0.00	0.00	0.00	0.00
1924	57.97	70.00	0.83	1.38	1.14
1927	1,199.42	70.00	17.13	1.96	33.51
1928	240.27	70.00	3.43	2.20	7.55
1929	3,245.74	70.00	46.37	2.42	112.02
1930	2,754.77	70.00	39.35	2.66	104.82
1934	1,126.52	70.00	16.09	3.64	58.65
1938	210.68	70.00	3.01	4.71	14.16
1939	32.38	70.00	0.46	4.96	2.30
1944	501.90	70.00	7.17	6.38	45.72
1947	1,798.83	70.00	25.70	7.32	188.02
1948	209.85	70.00	3.00	7.65	22.93
1949	6,057.06	70.00	86.53	8.00	692.38
1950	6,615.27	70.00	94.50	8.37	790.73
1951	4,186.01	70.00	59.80	8.75	523.28
1952	15,923.26	70.00	227.47	9.15	2,081.68
1953	13,250.15	70.00	189.29	9.57	1,812.31
1954	9,764.83	70.00	139.50	10.02	1,397.14
1955	2,669.26	70.00	38.13	10.48	399.75
1956	7,195.55	70.00	102.79	10.97	1,127.57
1957	9,054.69	70.00	129.35	11.48	1,485.40
1958	12,875.25	70.00	183.93	12.02	2,210.28
1959	4,200.11	70.00	60.00	12.57	754.29
1961	10.59	70.00	0.15	13.76	2.08
1962	6,729.03	70.00	96.13	14.38	1,382.31
1963	6,413.24	70.00	91.62	15.02	1,375.69
1964	773.61	70.00	11.05	15.67	173.18

FE 2024 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1965	116.00	70.00	1.66	16.33	27.07
1966	26,433.04	70.00	377.61	17.01	6,422.81
1967	3,998.59	70.00	57.12	17.70	1,010.98
1968	6,922.28	70.00	98.89	18.39	1,818.81
1969	3,057.48	70.00	43.68	19.10	834.27
1970	463.60	70.00	6.62	19.81	131.23
1971	8,232.96	70.00	117.61	20.54	2,416.07
1972	7,515.97	70.00	107.37	21.28	2,284.65
1973	5,772.46	70.00	82.46	22.02	1,816.11
1974	20,936.20	70.00	299.09	22.78	6,814.55
1975	13,982.45	70.00	199.75	23.55	4,704.40
1976	11,094.12	70.00	158.49	24.33	3,856.58
1977	5,651.74	70.00	80.74	25.12	2,028.41
1978	4,488.99	70.00	64.13	25.93	1,662.58
1979	27,760.34	70.00	396.57	26.74	10,603.19
1982	5,541.56	70.00	79.16	29.23	2,314.23
1984	13,188.78	70.00	188.41	30.95	5,830.85
1985	4,668.22	70.00	66.69	31.82	2,122.00
1986	35,767.39	70.00	510.96	32.70	16,707.61
1988	12,419.37	70.00	177.42	34.48	6,117.95
1989	36,560.88	70.00	522.30	35.39	18,481.94
1990	44,741.11	70.00	639.16	36.30	23,200.56
1991	20,265.18	70.00	289.50	37.22	10,774.22
1992	4,455.79	70.00	63.65	38.14	2,427.92
1993	139,251.82	70.00	1,989.30	39.07	77,729.14
1994	23,363.77	70.00	333.77	40.01	13,354.00
1995	856.81	70.00	12.24	40.95	501.28

FE 2024 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	64,574.96	70.00	922.49	41.90	38,654.32
2007	224,702.51	70.00	3,210.02	52.59	168,804.61
2008	91,861.43	70.00	1,312.30	53.57	70,304.54
2009	143,698.72	70.00	2,052.83	54.56	112,007.65
2011	10,268.13	70.00	146.69	56.54	8,294.30
2014	24,650.38	70.00	352.15	59.53	20,961.54
2015	285,001.75	70.00	4,071.43	60.52	246,404.30
2016	433,647.71	70.00	6,194.94	61.52	381,090.62
2017	480,008.88	70.00	6,857.24	62.51	428,666.63
2018	23,366.76	70.00	333.81	63.51	21,200.32
2019	10,393.06	70.00	148.47	64.51	9,577.58
2020	339,866.64	70.00	4,855.21	65.51	318,045.17
2021	514,159.01	70.00	7,345.09	66.50	488,479.63
2022	202,950.67	70.00	2,899.28	67.50	195,709.58
2023	4,595.57	70.00	65.65	68.50	4,497.18
2024	41,572.40	70.00	593.89	69.50	41,275.68
Total	3,499,962.42	69.00	49,998.64	55.94	2,796,765.93

Composite Average Remaining Life ... 55.94 Years

FE 2024 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1892	13,199.66	0.00	0.00	0.00	0.00
1902	5,876.85	0.00	0.00	0.00	0.00
1905	231.68	0.00	0.00	0.00	0.00
1910	39.90	0.00	0.00	0.00	0.00
1916	60,448.97	0.00	0.00	0.00	0.00
1924	43.93	70.00	0.63	1.38	0.87
1927	8,724.08	70.00	124.63	1.96	243.72
1928	177.84	70.00	2.54	2.20	5.59
1929	1,767.51	70.00	25.25	2.42	61.00
1930	14,505.87	70.00	207.23	2.66	551.97
1934	1,584.41	70.00	22.63	3.64	82.49
1937	73.90	70.00	1.06	4.43	4.68
1939	22.85	70.00	0.33	4.96	1.62
1940	2,686.64	70.00	38.38	5.24	201.15
1947	1,236.71	70.00	17.67	7.32	129.26
1948	143.92	70.00	2.06	7.65	15.73
1949	25,332.31	70.00	361.89	8.00	2,895.71
1950	5,551.99	70.00	79.31	8.37	663.63
1951	2,081.51	70.00	29.74	8.75	260.20
1952	33,072.03	70.00	472.46	9.15	4,323.57
1953	10,213.52	70.00	145.91	9.57	1,396.97
1954	6,627.96	70.00	94.68	10.02	948.32
1955	1,809.72	70.00	25.85	10.48	271.02
1956	4,607.45	70.00	65.82	10.97	722.01
1957	6,127.12	70.00	87.53	11.48	1,005.14
1958	14,126.41	70.00	201.80	12.02	2,425.07
1959	2,837.39	70.00	40.53	12.57	509.56

FE 2024 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1961	7.14	70.00	0.10	13.76	1.40
1962	4,535.32	70.00	64.79	14.38	931.66
1963	4,319.60	70.00	61.71	15.02	926.59
1964	5,403.39	70.00	77.19	15.67	1,209.63
1965	78.02	70.00	1.11	16.33	18.21
1966	8,856.75	70.00	126.52	17.01	2,152.05
1967	6,231.00	70.00	89.01	17.70	1,575.41
1968	4,648.62	70.00	66.41	18.39	1,221.41
1969	356.16	70.00	5.09	19.10	97.18
1970	311.02	70.00	4.44	19.81	88.04
1971	9,172.95	70.00	131.04	20.54	2,691.92
1972	5,037.91	70.00	71.97	21.28	1,531.39
1973	3,867.63	70.00	55.25	22.02	1,216.82
1974	13,131.54	70.00	187.59	22.78	4,274.20
1975	29,166.31	70.00	416.66	23.55	9,813.01
1976	39,705.43	70.00	567.22	24.33	13,802.57
1977	3,830.92	70.00	54.73	25.12	1,374.91
1978	17,998.16	70.00	257.12	25.93	6,665.96
1979	52,736.79	70.00	753.38	26.74	20,143.06
1982	28,737.55	70.00	410.53	29.23	12,001.19
1984	20,936.53	70.00	299.09	30.95	9,256.18
1985	6,426.42	70.00	91.81	31.82	2,921.22
1986	18,049.02	70.00	257.84	32.70	8,431.03
1988	8,340.21	70.00	119.15	34.48	4,108.50
1989	25,492.68	70.00	364.18	35.39	12,886.84
1990	51,854.52	70.00	740.78	36.30	26,889.23
1991	16,292.51	70.00	232.75	37.22	8,662.10

FE 2024 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1992	10,310.34	70.00	147.29	38.14	5,618.01
1993	43,358.46	70.00	619.40	39.07	24,202.31
1994	2,144.77	70.00	30.64	40.01	1,225.88
2013	104,744.96	70.00	1,496.35	58.53	87,582.14
2014	20,952.31	70.00	299.32	59.53	17,816.87
Total	790,187.07	64.07	10,148.38	30.36	308,056.19

Composite Average Remaining Life ... 30.36 Years

FE 2024 Study - Pennsylvania Power
Electric Division
361.20 Strucutres - Clearing and Grading
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1982	10,423.29	70.00	148.90	29.23	4,352.91
1984	22,196.95	70.00	317.10	30.95	9,813.42
1985	4,714.89	70.00	67.36	31.82	2,143.22
1986	27,260.71	70.00	389.44	32.70	12,733.98
1988	9,123.84	70.00	130.34	34.48	4,494.53
1989	32,176.26	70.00	459.66	35.39	16,265.46
1990	52,686.14	70.00	752.66	36.30	27,320.46
1991	55,883.01	70.00	798.32	37.22	29,710.84
1992	17,590.91	70.00	251.30	38.14	9,585.12
1993	43,941.89	70.00	627.74	39.07	24,527.98
1994	22,576.32	70.00	322.52	40.01	12,903.91
2005	137,521.89	70.00	1,964.59	50.62	99,444.05
2007	12,535.66	70.00	179.08	52.59	9,417.24
2022	5,665.87	70.00	80.94	67.50	5,463.72
Total	454,297.63	70.00	6,489.93	41.32	268,176.84

Composite Average Remaining Life ... *41.32 Years*

FE 2024 Study - Pennsylvania Power
Electric Division
361.21 Structures - Clearing and Grading - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1982	13,229.30	70.00	188.99	29.23	5,524.73
1984	39,203.31	70.00	560.04	30.95	17,332.05
1985	3,143.26	70.00	44.90	31.82	1,428.81
1986	26,663.57	70.00	380.91	32.70	12,455.05
1988	6,076.93	70.00	86.81	34.48	2,993.58
1989	21,430.98	70.00	306.16	35.39	10,833.60
1990	23,239.46	70.00	331.99	36.30	12,050.85
1991	48,827.78	70.00	697.54	37.22	25,959.85
1992	12,619.20	70.00	180.27	38.14	6,876.08
1993	782.14	70.00	11.17	39.07	436.58
Total	195,215.93	70.00	2,788.79	34.38	95,891.19

Composite Average Remaining Life ... 34.38 Years

FE 2024 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1916	1,483.65	0.00	0.00	0.00	0.00
1923	571.57	52.00	10.99	1.04	11.40
1924	200.08	52.00	3.85	1.36	5.23
1926	541.29	52.00	10.41	2.02	21.04
1927	4,263.07	52.00	81.98	2.36	193.26
1928	222.62	52.00	4.28	2.70	11.55
1929	31,095.40	52.00	597.97	3.01	1,802.10
1930	37,076.22	52.00	712.99	3.32	2,367.03
1931	36.91	52.00	0.71	3.62	2.57
1933	55.94	52.00	1.08	4.21	4.53
1936	488.14	52.00	9.39	5.10	47.87
1937	14.62	52.00	0.28	5.40	1.52
1938	109.02	52.00	2.10	5.70	11.96
1939	1,081.84	52.00	20.80	6.01	125.08
1940	7,126.92	52.00	137.05	6.33	867.34
1941	766.14	52.00	14.73	6.64	97.86
1942	407.07	52.00	7.83	6.96	54.49
1943	157.79	52.00	3.03	7.28	22.10
1944	4,660.32	52.00	89.62	7.61	682.08
1945	930.31	52.00	17.89	7.94	142.10
1946	2,296.03	52.00	44.15	8.28	365.57
1948	36,018.13	52.00	692.64	8.97	6,210.95
1949	31,736.81	52.00	610.31	9.32	5,686.83
1950	44,189.90	52.00	849.79	9.67	8,220.53
1951	11,658.95	52.00	224.21	10.03	2,249.73
1952	72,331.34	52.00	1,390.96	10.40	14,465.56
1953	173,213.25	52.00	3,330.95	10.77	35,875.06

FE 2024 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1954	81,517.38	52.00	1,567.61	11.15	17,473.68
1955	20,345.62	52.00	391.25	11.53	4,509.99
1956	43,547.75	52.00	837.44	11.91	9,976.09
1957	83,199.29	52.00	1,599.95	12.30	19,685.07
1958	101,585.10	52.00	1,953.52	12.70	24,809.41
1959	22,556.13	52.00	433.76	13.10	5,683.01
1960	16,855.03	52.00	324.13	13.51	4,378.64
1961	27,065.57	52.00	520.48	13.92	7,246.10
1962	51,541.27	52.00	991.16	14.34	14,213.75
1963	23,325.37	52.00	448.55	14.76	6,622.89
1964	18,151.99	52.00	349.07	15.20	5,304.16
1965	74,414.45	52.00	1,431.01	15.63	22,368.62
1966	140,231.29	52.00	2,696.69	16.07	43,344.34
1967	310,147.87	52.00	5,964.25	16.52	98,537.09
1968	236,922.25	52.00	4,556.09	16.98	77,342.50
1969	95,896.64	52.00	1,844.12	17.44	32,154.46
1970	104,471.97	52.00	2,009.03	17.90	35,967.70
1971	148,867.16	52.00	2,862.77	18.38	52,606.80
1972	154,280.12	52.00	2,966.86	18.86	55,942.60
1973	205,417.68	52.00	3,950.25	19.34	76,405.49
1974	432,885.43	52.00	8,324.53	19.83	165,113.39
1975	135,867.51	52.00	2,612.78	20.33	53,127.58
1976	129,460.04	52.00	2,489.56	20.84	51,881.34
1977	292,306.45	52.00	5,621.15	21.35	120,022.94
1978	422,927.10	52.00	8,133.03	21.87	177,878.79
1979	691,885.80	52.00	13,305.20	22.40	297,996.46
1980	357,163.93	52.00	6,868.38	22.93	157,482.66

FE 2024 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1981	63,468.45	52.00	1,220.52	23.47	28,643.26
1982	180,703.94	52.00	3,475.00	24.01	83,449.50
1983	14,645.51	52.00	281.64	24.57	6,919.04
1984	520,663.24	52.00	10,012.53	25.13	251,581.51
1985	185,389.11	52.00	3,565.09	25.69	91,597.42
1986	535,502.89	52.00	10,297.90	26.27	270,480.55
1987	259,646.36	52.00	4,993.09	26.84	134,038.82
1988	216,530.59	52.00	4,163.96	27.43	114,219.83
1989	743,209.95	52.00	14,292.18	28.02	400,505.14
1990	889,355.58	52.00	17,102.60	28.62	489,494.18
1991	1,874,354.55	52.00	36,044.46	29.23	1,053,418.01
1992	1,649,055.70	52.00	31,711.89	29.83	946,118.97
1993	1,245,008.18	52.00	23,941.92	30.45	729,066.15
1994	1,613,768.67	52.00	31,033.31	31.07	964,321.46
1995	532,221.12	52.00	10,234.79	31.70	324,459.30
1996	561,111.87	52.00	10,790.37	32.33	348,904.65
1997	359,148.87	52.00	6,906.55	32.97	227,731.18
1998	338,761.08	52.00	6,514.49	33.62	218,994.65
1999	642,087.92	52.00	12,347.57	34.26	423,085.00
2000	310,338.31	52.00	5,967.91	34.92	208,383.22
2001	1,177,637.35	52.00	22,646.36	35.57	805,627.20
2002	744,034.89	52.00	14,308.04	36.24	518,456.05
2003	310,762.96	52.00	5,976.08	36.90	220,518.48
2004	702,435.02	52.00	13,508.06	37.57	507,481.48
2005	4,666,326.31	52.00	89,735.01	38.24	3,431,540.53
2006	763,444.90	52.00	14,681.30	38.92	571,329.00
2007	3,149,259.62	52.00	60,561.31	39.59	2,397,862.65

FE 2024 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	4,423,706.13	52.00	85,069.35	40.28	3,426,206.53
2009	2,780,302.39	52.00	53,466.14	40.96	2,189,962.91
2010	505,564.77	52.00	9,722.18	41.65	404,899.43
2011	508,681.69	52.00	9,782.12	42.34	414,146.09
2012	805,365.50	52.00	15,487.45	43.03	666,427.24
2013	1,352,335.21	52.00	26,005.86	43.73	1,137,143.03
2014	1,177,957.36	52.00	22,652.51	44.43	1,006,360.06
2015	7,092,561.75	52.00	136,392.33	45.13	6,155,245.77
2016	7,839,370.01	52.00	150,753.70	45.84	6,909,874.10
2017	6,206,812.33	52.00	119,359.08	46.55	5,555,656.60
2018	7,756,103.05	52.00	149,152.45	47.26	7,048,778.44
2019	7,368,475.81	52.00	141,698.25	47.98	6,798,251.09
2020	4,344,667.90	52.00	83,549.42	48.70	4,068,777.59
2021	9,538,488.43	52.00	183,428.32	49.43	9,065,997.22
2022	4,722,021.00	52.00	90,806.04	50.16	4,554,446.44
2023	9,461,525.11	52.00	181,948.29	50.89	9,259,454.71
2024	5,521,207.70	52.00	106,174.67	51.63	5,481,781.90
Total	110,539,588.60	51.47	2,125,684.69	43.11	91,629,257.30

Composite Average Remaining Life ... 43.11 Years

FE 2024 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1909	40.98	0.00	0.00	0.00	0.00
1916	861.11	0.00	0.00	0.00	0.00
1927	1,731.94	52.00	33.31	2.36	78.52
1928	215.83	52.00	4.15	2.70	11.20
1929	38,683.64	52.00	743.90	3.01	2,241.87
1930	35,125.51	52.00	675.48	3.32	2,242.49
1931	448.56	52.00	8.63	3.62	31.22
1932	119.76	52.00	2.30	3.92	9.02
1937	242.53	52.00	4.66	5.40	25.19
1939	9,729.35	52.00	187.10	6.01	1,124.91
1940	463.18	52.00	8.91	6.33	56.37
1941	155.27	52.00	2.99	6.64	19.83
1942	180.15	52.00	3.46	6.96	24.11
1943	33.57	52.00	0.65	7.28	4.70
1944	1,084.35	52.00	20.85	7.61	158.70
1945	227.67	52.00	4.38	7.94	34.78
1946	1,237.39	52.00	23.80	8.28	197.02
1948	474.26	52.00	9.12	8.97	81.78
1949	40,566.38	52.00	780.11	9.32	7,268.98
1950	28,238.57	52.00	543.04	9.67	5,253.15
1951	33,716.86	52.00	648.39	10.03	6,506.05
1952	25,665.54	52.00	493.56	10.40	5,132.86
1953	43,204.17	52.00	830.83	10.77	8,948.23
1954	35,482.79	52.00	682.35	11.15	7,605.92
1955	12,355.33	52.00	237.60	11.53	2,738.79
1956	23,682.09	52.00	455.41	11.91	5,425.18
1957	32,688.35	52.00	628.61	12.30	7,734.11

FE 2024 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	94,284.88	52.00	1,813.13	12.70	23,026.53
1959	24,412.56	52.00	469.46	13.10	6,150.73
1960	5,854.39	52.00	112.58	13.51	1,520.87
1961	6,065.66	52.00	116.64	13.92	1,623.92
1962	23,605.23	52.00	453.94	14.34	6,509.71
1963	27,533.16	52.00	529.47	14.76	7,817.63
1964	8,356.48	52.00	160.70	15.20	2,441.83
1965	43,920.49	52.00	844.61	15.63	13,202.29
1966	59,043.71	52.00	1,135.43	16.07	18,249.92
1967	40,990.95	52.00	788.27	16.52	13,023.24
1968	47,851.85	52.00	920.21	16.98	15,621.08
1969	12,254.17	52.00	235.65	17.44	4,108.86
1970	29,170.47	52.00	560.96	17.90	10,042.84
1971	128,390.92	52.00	2,469.00	18.38	45,370.89
1972	38,831.64	52.00	746.75	18.86	14,080.51
1973	63,741.72	52.00	1,225.77	19.34	23,708.85
1974	68,228.94	52.00	1,312.07	19.83	26,024.23
1975	221,981.01	52.00	4,268.77	20.33	86,800.10
1976	140,859.19	52.00	2,708.77	20.84	56,449.57
1977	83,267.17	52.00	1,601.26	21.35	34,190.04
1978	371,996.75	52.00	7,153.62	21.87	156,458.01
1979	277,234.05	52.00	5,331.30	22.40	119,405.21
1980	38,819.47	52.00	746.51	22.93	17,116.49
1981	30,065.46	52.00	578.17	23.47	13,568.52
1982	133,673.48	52.00	2,570.59	24.01	61,730.73
1983	80,280.30	52.00	1,543.82	24.57	37,927.16
1984	277,364.09	52.00	5,333.80	25.13	134,020.74

FE 2024 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	153,842.12	52.00	2,958.44	25.69	76,010.62
1986	204,550.55	52.00	3,933.58	26.27	103,317.74
1987	867.27	52.00	16.68	26.84	447.72
1988	75,105.63	52.00	1,444.31	27.43	39,618.20
1989	174,219.74	52.00	3,350.30	28.02	93,884.51
1990	276,554.70	52.00	5,318.24	28.62	152,213.49
1991	538,723.95	52.00	10,359.84	29.23	302,771.70
1992	249,173.54	52.00	4,791.69	29.83	142,959.28
1993	312,934.65	52.00	6,017.84	30.45	183,251.86
1994	158,622.75	52.00	3,050.37	31.07	94,786.40
1995	151,544.70	52.00	2,914.26	31.70	92,386.58
1996	31,683.62	52.00	609.29	32.33	19,701.17
1997	973.25	52.00	18.72	32.97	617.12
1999	42,336.33	52.00	814.14	34.26	27,896.28
2000	107,198.70	52.00	2,061.47	34.92	71,980.83
2001	17,239.98	52.00	331.53	35.57	11,793.95
2002	84,216.88	52.00	1,619.52	36.24	58,683.74
2003	412,418.86	52.00	7,930.95	36.90	292,653.86
2006	125,664.82	52.00	2,416.58	38.92	94,042.09
2008	96,913.36	52.00	1,863.68	40.28	75,060.41
2011	38,953.47	52.00	749.09	42.34	31,714.19
2012	136,944.32	52.00	2,633.49	43.03	113,319.26
2013	40,835.91	52.00	785.29	43.73	34,337.84
2014	10,177.69	52.00	195.72	44.43	8,695.07
2015	658,018.29	52.00	12,653.91	45.13	571,058.02
2016	213,083.66	52.00	4,097.67	45.84	187,818.82
2017	543,639.12	52.00	10,454.36	46.55	486,606.02

FE 2024 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2018	857,055.31	52.00	16,481.46	47.26	778,895.40
2019	5,309.64	52.00	102.11	47.98	4,898.74
2020	11,793.83	52.00	226.80	48.70	11,044.91
2023	55,122.78	52.00	1,060.03	50.89	53,945.52
2024	65,597.05	52.00	1,261.45	51.63	65,128.64
Total	8,596,049.79	50.79	165,287.56	32.03	5,294,685.49

Composite Average Remaining Life ... 32.03 Years

FE 2024 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1927	106.42	65.00	1.64	9.23	15.11
1928	760.91	65.00	11.71	9.51	111.31
1929	22.57	65.00	0.35	9.80	3.40
1930	6.05	65.00	0.09	10.08	0.94
1931	2.56	65.00	0.04	10.38	0.41
1932	109.66	65.00	1.69	10.67	18.01
1933	78.93	65.00	1.21	10.98	13.33
1934	150.89	65.00	2.32	11.28	26.18
1935	110.28	65.00	1.70	11.59	19.66
1936	611.76	65.00	9.41	11.89	111.94
1937	56,036.55	65.00	862.09	12.21	10,527.18
1938	1,540.13	65.00	23.69	12.53	296.84
1939	3,807.62	65.00	58.58	12.85	752.97
1940	1,786.88	65.00	27.49	13.18	362.34
1941	2,051.17	65.00	31.56	13.51	426.46
1942	1,711.86	65.00	26.34	13.85	364.87
1943	1,082.60	65.00	16.66	14.20	236.48
1944	1,239.48	65.00	19.07	14.55	277.46
1945	1,585.52	65.00	24.39	14.91	363.62
1946	2,603.48	65.00	40.05	15.27	611.67
1947	7,011.46	65.00	107.87	15.64	1,687.19
1948	14,405.30	65.00	221.62	16.02	3,550.06
1949	26,318.54	65.00	404.90	16.40	6,641.43
1950	23,872.63	65.00	367.27	16.79	6,168.00
1951	43,654.38	65.00	671.60	17.19	11,546.83
1952	36,949.99	65.00	568.46	17.60	10,004.33
1953	71,898.68	65.00	1,106.12	18.01	19,924.87

FE 2024 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1954	75,439.41	65.00	1,160.59	18.44	21,395.66
1955	68,007.31	65.00	1,046.26	18.86	19,736.94
1956	106,387.13	65.00	1,636.71	19.30	31,591.82
1957	37,632.40	65.00	578.95	19.75	11,432.61
1958	110,733.57	65.00	1,703.58	20.20	34,413.70
1959	175,337.01	65.00	2,697.46	20.66	55,734.21
1960	184,949.93	65.00	2,845.35	21.13	60,127.61
1961	193,414.31	65.00	2,975.57	21.61	64,298.11
1962	219,926.14	65.00	3,383.44	22.10	74,757.79
1963	215,877.70	65.00	3,321.16	22.59	75,018.06
1964	268,917.35	65.00	4,137.15	23.09	95,529.96
1965	301,304.57	65.00	4,635.41	23.60	109,392.67
1966	403,364.72	65.00	6,205.55	24.12	149,668.27
1967	385,535.31	65.00	5,931.25	24.64	146,174.22
1968	379,780.47	65.00	5,842.72	25.18	147,106.85
1969	429,446.87	65.00	6,606.81	25.72	169,926.96
1970	406,252.13	65.00	6,249.97	26.27	164,177.05
1971	514,468.88	65.00	7,914.82	26.83	212,324.93
1972	523,038.05	65.00	8,046.66	27.39	220,396.52
1973	474,003.91	65.00	7,292.29	27.96	203,913.67
1974	638,736.24	65.00	9,826.61	28.54	280,463.94
1975	668,524.23	65.00	10,284.88	29.13	299,591.41
1976	554,968.38	65.00	8,537.89	29.72	253,763.90
1977	500,478.31	65.00	7,699.59	30.32	233,487.50
1978	764,039.19	65.00	11,754.33	30.93	363,579.14
1979	866,957.26	65.00	13,337.67	31.55	420,779.74
1980	1,173,862.43	65.00	18,059.23	32.17	580,981.09

FE 2024 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981	1,433,345.53	65.00	22,051.24	32.80	723,259.36
1982	1,236,028.22	65.00	19,015.62	33.44	635,789.64
1983	1,799,292.87	65.00	27,681.14	34.08	943,269.21
1984	1,351,223.51	65.00	20,787.84	34.73	721,864.49
1985	1,922,112.73	65.00	29,570.66	35.38	1,046,178.20
1986	1,690,372.14	65.00	26,005.45	36.04	937,249.98
1987	1,901,530.92	65.00	29,254.02	36.71	1,073,801.31
1988	2,195,291.27	65.00	33,773.36	37.38	1,262,438.18
1989	1,916,195.01	65.00	29,479.62	38.06	1,121,899.94
1990	2,171,715.50	65.00	33,410.66	38.74	1,294,391.50
1991	2,364,945.55	65.00	36,383.40	39.43	1,434,596.82
1992	2,463,245.24	65.00	37,895.69	40.13	1,520,602.24
1993	2,998,080.19	65.00	46,123.83	40.83	1,883,071.52
1994	3,082,927.17	65.00	47,429.15	41.53	1,969,779.42
1995	2,280,142.78	65.00	35,078.75	42.24	1,481,782.41
1996	2,592,119.56	65.00	39,878.35	42.96	1,713,007.53
1997	2,032,030.80	65.00	31,261.69	43.68	1,365,387.75
1998	2,843,036.87	65.00	43,738.57	44.40	1,941,970.45
1999	2,081,072.46	65.00	32,016.17	45.13	1,444,852.88
2000	2,079,909.20	65.00	31,998.27	45.86	1,467,471.56
2001	1,882,395.80	65.00	28,959.63	46.60	1,349,488.22
2002	2,122,572.89	65.00	32,654.63	47.34	1,545,846.77
2003	2,915,882.92	65.00	44,859.27	48.09	2,157,077.18
2004	1,982,266.62	65.00	30,496.09	48.83	1,489,234.09
2005	2,959,277.14	65.00	45,526.87	49.59	2,257,565.34
2006	2,570,055.19	65.00	39,538.90	50.34	1,990,570.77
2007	2,195,637.55	65.00	33,778.69	51.10	1,726,247.96

FE 2024 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	3,311,737.37	65.00	50,949.28	51.87	2,642,698.95
2009	3,205,099.35	65.00	49,308.71	52.64	2,595,438.50
2010	3,802,745.96	65.00	58,503.17	53.41	3,124,567.81
2011	3,752,266.87	65.00	57,726.58	54.18	3,127,802.08
2012	3,170,224.76	65.00	48,772.18	54.96	2,680,637.79
2013	2,967,163.69	65.00	45,648.20	55.74	2,544,620.40
2014	3,977,276.81	65.00	61,188.24	56.53	3,459,024.92
2015	3,945,737.03	65.00	60,703.01	57.32	3,479,482.62
2016	5,487,560.72	65.00	84,423.13	58.11	4,906,147.45
2017	5,184,125.41	65.00	79,754.94	58.91	4,698,346.16
2018	6,410,314.84	65.00	98,619.20	59.71	5,888,656.21
2019	6,857,593.36	65.00	105,500.34	60.52	6,384,393.15
2020	7,003,927.89	65.00	107,751.61	61.32	6,607,608.44
2021	5,863,495.84	65.00	90,206.69	62.13	5,604,912.06
2022	5,872,330.12	65.00	90,342.60	62.95	5,686,915.47
2023	6,208,623.42	65.00	95,516.29	63.77	6,090,786.32
Total	147,023,828.58	65.00	2,261,881.50	49.78	112,594,560.30

Composite Average Remaining Life ... 49.78 Years

FE 2024 Study - Pennsylvania Power
Electric Division
364.10 Towers and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1947	7,576.09	75.00	101.01	9.88	997.99
Total	7,576.09	75.00	101.01	9.88	997.99

Composite Average Remaining Life ... 9.88 Years

FE 2024 Study - Pennsylvania Power
Electric Division
364.20 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1980	558.19	65.00	8.59	32.17	276.27
1981	1,521.46	65.00	23.41	32.80	767.72
1982	17,900.33	65.00	275.39	33.44	9,207.59
1983	11,119.91	65.00	171.07	34.08	5,829.55
1984	9,294.77	65.00	142.99	34.73	4,965.55
1985	14,486.00	65.00	222.86	35.38	7,884.52
1986	122,848.25	65.00	1,889.95	36.04	68,114.89
1987	25,103.96	65.00	386.21	36.71	14,176.30
1988	4,449.91	65.00	68.46	37.38	2,558.99
1989	5,116.33	65.00	78.71	38.06	2,995.53
1990	23,660.78	65.00	364.01	38.74	14,102.36
1991	17,876.59	65.00	275.02	39.43	10,844.10
1992	45,010.53	65.00	692.46	40.13	27,785.75
1993	39,825.49	65.00	612.69	40.83	25,014.09
1994	18,229.29	65.00	280.45	41.53	11,647.27
1995	44,482.06	65.00	684.33	42.24	28,907.28
1996	39,345.09	65.00	605.30	42.96	26,001.28
1998	7,143.61	65.00	109.90	44.40	4,879.53
1999	16,931.83	65.00	260.49	45.13	11,755.48
2000	7,431.58	65.00	114.33	45.86	5,243.32
2003	164,010.15	65.00	2,523.21	48.09	121,329.48
2004	573,603.94	65.00	8,824.58	48.83	430,936.25
2005	5,208.81	65.00	80.13	49.59	3,973.68
2006	11,393.83	65.00	175.29	50.34	8,824.80
2007	22,450.70	65.00	345.39	51.10	17,651.13
2008	141,003.04	65.00	2,169.25	51.87	112,517.55
2009	67,648.95	65.00	1,040.74	52.64	54,781.04

FE 2024 Study - Pennsylvania Power
Electric Division
364.20 Poles and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	24,413.95	65.00	375.60	53.41	20,059.99
2011	338,968.15	65.00	5,214.84	54.18	282,555.94
2012	77,883.27	65.00	1,198.19	54.96	65,855.53
2013	51,003.94	65.00	784.67	55.74	43,740.65
2015	146,701.14	65.00	2,256.92	57.32	129,365.96
2016	17,680.92	65.00	272.01	58.11	15,807.61
2017	254,233.45	65.00	3,911.24	58.91	230,410.47
2018	115,236.70	65.00	1,772.85	59.71	105,858.97
2021	5,449.55	65.00	83.84	62.13	5,209.22
2022	1,892.18	65.00	29.11	62.95	1,832.44
2023	47,552.60	65.00	731.57	63.77	46,650.07
2024	6,260,686.19	65.00	96,317.25	64.59	6,220,955.47
Total	8,799,357.42	65.00	135,373.32	60.58	8,201,273.61

Composite Average Remaining Life ... 60.58 Years

FE 2024 Study - Pennsylvania Power
Electric Division
365.00 Overhead Conductors and Devices
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And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	1,366.75	65.00	21.03	10.22	214.93
1927	1,209.74	65.00	18.61	10.56	196.51
1928	5,365.70	65.00	82.55	10.90	899.92
1929	5,346.71	65.00	82.26	11.25	925.39
1930	11,343.27	65.00	174.51	11.60	2,024.36
1931	6,730.49	65.00	103.54	11.96	1,238.00
1932	2,680.75	65.00	41.24	12.31	507.85
1933	2,400.36	65.00	36.93	12.68	468.16
1934	3,693.76	65.00	56.83	13.04	741.20
1935	5,395.05	65.00	83.00	13.41	1,113.42
1936	7,847.73	65.00	120.73	13.79	1,664.71
1937	22,198.10	65.00	341.50	14.17	4,838.42
1938	22,234.34	65.00	342.06	14.55	4,976.95
1939	15,451.98	65.00	237.72	14.94	3,550.95
1940	21,574.62	65.00	331.91	15.33	5,087.54
1941	24,892.69	65.00	382.96	15.72	6,021.34
1942	6,361.71	65.00	97.87	16.12	1,577.99
1943	4,655.51	65.00	71.62	16.53	1,183.71
1944	6,863.35	65.00	105.59	16.94	1,788.23
1945	20,395.50	65.00	313.77	17.35	5,443.54
1946	31,614.27	65.00	486.36	17.77	8,640.95
1947	67,528.88	65.00	1,038.89	18.19	18,895.74
1948	92,724.96	65.00	1,426.51	18.62	26,554.78
1949	101,596.67	65.00	1,563.00	19.05	29,769.83
1950	141,716.06	65.00	2,180.21	19.48	42,476.18
1951	143,633.89	65.00	2,209.71	19.92	44,025.66
1952	141,573.58	65.00	2,178.01	20.37	44,364.40

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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1953	169,262.59	65.00	2,603.99	20.82	54,215.41
1954	188,199.73	65.00	2,895.33	21.28	61,600.49
1955	153,263.87	65.00	2,357.86	21.74	51,250.91
1956	159,030.57	65.00	2,446.58	22.20	54,318.88
1957	255,363.37	65.00	3,928.59	22.67	89,070.23
1958	223,610.73	65.00	3,440.10	23.15	79,632.69
1959	263,916.79	65.00	4,060.18	23.63	95,937.24
1960	244,268.94	65.00	3,757.91	24.12	90,623.25
1961	261,807.65	65.00	4,027.73	24.61	99,106.51
1962	416,209.86	65.00	6,403.11	25.10	160,737.98
1963	277,894.37	65.00	4,275.22	25.60	109,463.55
1964	283,597.63	65.00	4,362.96	26.11	113,925.72
1965	311,488.33	65.00	4,792.04	26.62	127,581.29
1966	386,115.26	65.00	5,940.12	27.14	161,228.24
1967	323,698.71	65.00	4,979.89	27.67	137,772.24
1968	363,801.03	65.00	5,596.83	28.19	157,796.24
1969	358,533.04	65.00	5,515.79	28.73	158,458.76
1970	298,574.65	65.00	4,593.37	29.27	134,433.89
1971	426,148.10	65.00	6,556.00	29.81	195,448.84
1972	364,450.80	65.00	5,606.83	30.36	170,232.04
1973	430,849.34	65.00	6,628.33	30.92	204,932.38
1974	337,618.48	65.00	5,194.03	31.48	163,495.55
1975	281,952.62	65.00	4,337.65	32.04	138,997.70
1976	235,406.78	65.00	3,621.58	32.61	118,117.08
1977	238,731.32	65.00	3,672.72	33.19	121,906.35
1978	453,590.19	65.00	6,978.18	33.77	235,674.54
1979	344,467.72	65.00	5,299.40	34.36	182,093.26

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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1980	566,804.10	65.00	8,719.90	34.95	304,791.08
1981	455,418.01	65.00	7,006.30	35.55	249,074.60
1982	319,969.26	65.00	4,922.51	36.15	177,961.68
1983	481,886.80	65.00	7,413.50	36.76	272,512.30
1984	600,276.52	65.00	9,234.85	37.37	345,117.46
1985	1,060,032.91	65.00	16,307.89	37.99	619,485.97
1986	681,038.54	65.00	10,477.32	38.61	404,514.25
1987	597,202.87	65.00	9,187.57	39.23	360,457.79
1988	1,100,760.05	65.00	16,934.45	39.86	675,072.87
1989	852,202.25	65.00	13,110.56	40.50	530,939.44
1990	1,198,942.39	65.00	18,444.92	41.14	758,754.32
1991	1,693,115.30	65.00	26,047.44	41.78	1,088,196.80
1992	1,590,603.84	65.00	24,470.37	42.42	1,038,145.01
1993	1,689,638.43	65.00	25,993.95	43.07	1,119,683.24
1994	1,603,591.03	65.00	24,670.17	43.73	1,078,772.55
1995	2,727,980.05	65.00	41,968.14	44.39	1,862,761.33
1996	2,566,607.79	65.00	39,485.54	45.04	1,778,620.32
1997	1,814,079.16	65.00	27,908.39	45.71	1,275,656.19
1998	1,497,743.70	65.00	23,041.78	46.37	1,068,552.23
1999	1,599,248.41	65.00	24,603.36	47.04	1,157,449.29
2000	1,328,271.93	65.00	20,434.57	47.72	975,051.60
2001	1,070,963.91	65.00	16,476.06	48.39	797,293.42
2002	1,682,210.13	65.00	25,879.67	49.07	1,269,851.98
2003	2,380,541.22	65.00	36,623.03	49.75	1,821,914.42
2004	3,013,365.92	65.00	46,358.61	50.43	2,337,819.28
2005	4,471,797.37	65.00	68,795.60	51.11	3,516,414.84
2006	3,424,607.57	65.00	52,685.29	51.80	2,729,135.63

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And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	4,117,643.59	65.00	63,347.18	52.49	3,325,044.90
2008	4,218,703.98	65.00	64,901.93	53.18	3,451,532.86
2009	4,012,504.55	65.00	61,729.69	53.87	3,325,624.98
2010	4,251,666.22	65.00	65,409.03	54.57	3,569,410.58
2011	5,446,098.24	65.00	83,784.56	55.27	4,630,684.96
2012	4,783,774.05	65.00	73,595.15	55.97	4,119,194.23
2013	4,520,715.91	65.00	69,548.18	56.67	3,941,626.53
2014	6,156,839.28	65.00	94,718.84	57.38	5,435,211.64
2015	7,181,859.36	65.00	110,488.08	58.09	6,418,483.57
2016	9,053,869.31	65.00	139,287.70	58.81	8,190,950.74
2017	8,549,967.96	65.00	131,535.52	59.52	7,829,195.32
2018	10,150,918.12	65.00	156,165.06	60.24	9,407,668.14
2019	13,930,650.17	65.00	214,313.70	60.96	13,065,612.05
2020	11,659,989.56	65.00	179,381.11	61.69	11,066,134.77
2021	8,689,342.99	65.00	133,679.71	62.42	8,344,356.92
2022	8,455,805.13	65.00	130,086.88	63.15	8,215,379.09
2023	7,352,129.42	65.00	113,107.57	63.89	7,226,439.27
2024	12,257,508.98	65.00	188,573.54	64.63	12,187,408.16
Total	185,829,135.17	65.00	2,858,856.46	54.95	157,091,200.56

Composite Average Remaining Life ... 54.95 Years

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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1913	29,386.00	65.00	452.08	6.11	2,764.02
1916	13.62	65.00	0.21	7.01	1.47
1923	2,178.06	65.00	33.51	9.22	308.98
1925	6.98	65.00	0.11	9.88	1.06
1927	8,088.50	65.00	124.44	10.56	1,313.93
1928	1,537.08	65.00	23.65	10.90	257.80
1929	3,641.76	65.00	56.03	11.25	630.30
1930	1,910.06	65.00	29.38	11.60	340.88
1934	113.13	65.00	1.74	13.04	22.70
1936	45.31	65.00	0.70	13.79	9.61
1937	1,008.70	65.00	15.52	14.17	219.86
1938	287.78	65.00	4.43	14.55	64.42
1939	2,447.56	65.00	37.65	14.94	562.46
1940	874.77	65.00	13.46	15.33	206.28
1941	1,451.78	65.00	22.33	15.72	351.17
1942	2,313.57	65.00	35.59	16.12	573.87
1943	173.55	65.00	2.67	16.53	44.13
1944	6.83	65.00	0.11	16.94	1.78
1945	180.46	65.00	2.78	17.35	48.16
1946	155.69	65.00	2.40	17.77	42.55
1947	10,507.58	65.00	161.65	18.19	2,940.20
1948	7,002.27	65.00	107.73	18.62	2,005.33
1949	22,220.55	65.00	341.85	19.05	6,511.06
1950	2,866.22	65.00	44.09	19.48	859.08
1951	7,960.80	65.00	122.47	19.92	2,440.09
1952	14,423.94	65.00	221.90	20.37	4,519.98
1953	5,221.82	65.00	80.33	20.82	1,672.57

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Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1954	18,134.94	65.00	278.99	21.28	5,935.83
1955	14,961.51	65.00	230.17	21.74	5,003.08
1956	1,219.79	65.00	18.77	22.20	416.63
1957	5,263.85	65.00	80.98	22.67	1,836.02
1958	2,868.18	65.00	44.13	23.15	1,021.42
1959	7,531.86	65.00	115.87	23.63	2,737.93
1960	679.20	65.00	10.45	24.12	251.98
1961	2,007.61	65.00	30.89	24.61	759.97
1962	6,497.23	65.00	99.96	25.10	2,509.19
1963	1,011.58	65.00	15.56	25.60	398.46
1964	8,286.91	65.00	127.49	26.11	3,328.98
1965	9,238.07	65.00	142.12	26.62	3,783.79
1966	8,492.25	65.00	130.65	27.14	3,546.07
1967	24,528.79	65.00	377.36	27.67	10,439.91
1968	23,710.69	65.00	364.77	28.19	10,284.35
1969	17,838.09	65.00	274.43	28.73	7,883.80
1970	36,907.85	65.00	567.80	29.27	16,617.84
1971	12,447.78	65.00	191.50	29.81	5,709.06
1972	32,350.36	65.00	497.69	30.36	15,110.59
1973	88,068.76	65.00	1,354.88	30.92	41,889.68
1974	4,552.88	65.00	70.04	31.48	2,204.78
1975	1,847.36	65.00	28.42	32.04	910.72
1976	2,678.48	65.00	41.21	32.61	1,343.95
1977	818.55	65.00	12.59	33.19	417.99
1978	304.53	65.00	4.68	33.77	158.23
1979	23,542.48	65.00	362.19	34.36	12,445.08
1980	1,253.57	65.00	19.29	34.95	674.09

FE 2024 Study - Pennsylvania Power
Electric Division
365.01 Overhead Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1981	3,085.21	65.00	47.46	35.55	1,687.35
1982	4,719.35	65.00	72.60	36.15	2,624.83
1983	3,399.92	65.00	52.31	36.76	1,922.69
1984	25,100.87	65.00	386.16	37.37	14,431.26
1985	5,544.47	65.00	85.30	37.99	3,240.20
1986	165,760.26	65.00	2,550.11	38.61	98,456.08
1987	15,518.28	65.00	238.74	39.23	9,366.47
1988	5,249.01	65.00	80.75	39.86	3,219.11
1989	6,336.79	65.00	97.49	40.50	3,947.95
1990	7,227.17	65.00	111.19	41.14	4,573.74
1991	12,484.49	65.00	192.07	41.78	8,024.01
1992	15,690.38	65.00	241.39	42.42	10,240.70
1993	11,266.70	65.00	173.33	43.07	7,466.17
1994	12,798.70	65.00	196.90	43.73	8,609.98
1996	68,704.51	65.00	1,056.97	45.04	47,611.18
1997	1,954.42	65.00	30.07	45.71	1,374.34
1998	8,508.98	65.00	130.90	46.37	6,070.66
1999	81.74	65.00	1.26	47.04	59.16
2000	7,536.16	65.00	115.94	47.72	5,532.11
2001	9,062.63	65.00	139.42	48.39	6,746.80
2002	46,603.02	65.00	716.96	49.07	35,179.28
2003	30,236.03	65.00	465.16	49.75	23,140.73
2004	270,112.12	65.00	4,155.49	50.43	209,557.46
2005	7,335.56	65.00	112.85	51.11	5,768.35
2006	995.53	65.00	15.32	51.80	793.36
2007	35,594.21	65.00	547.59	52.49	28,742.74
2008	118,310.73	65.00	1,820.13	53.18	96,795.93

FE 2024 Study - Pennsylvania Power
Electric Division
365.01 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2009	121,985.20	65.00	1,876.66	53.87	101,103.19
2010	67,909.64	65.00	1,044.74	54.57	57,012.33
2011	218,949.87	65.00	3,368.40	55.27	186,167.75
2012	148,694.61	65.00	2,287.57	55.97	128,037.40
2013	117,096.69	65.00	1,801.45	56.67	102,096.98
2014	19,206.81	65.00	295.48	57.38	16,955.63
2015	245,476.73	65.00	3,776.49	58.09	219,384.46
2016	50,119.72	65.00	771.06	58.81	45,342.84
2017	606,119.32	65.00	9,324.74	59.52	555,022.73
2018	112,186.18	65.00	1,725.91	60.24	103,971.91
2020	10,997.56	65.00	169.19	61.69	10,437.44
2021	37,294.92	65.00	573.76	62.42	35,814.23
2022	3,190.67	65.00	49.09	63.15	3,099.95
2023	191,117.58	65.00	2,940.22	63.89	187,850.28
Total	3,332,630.26	65.00	51,270.28	50.40	2,583,812.92

Composite Average Remaining Life ... 50.40 Years

FE 2024 Study - Pennsylvania Power
Electric Division
365.10 Overhead Conductors - Clearing and Grading
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *64* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	149,196.07	64.00	2,331.14	49.44	115,248.43
2007	1,124,793.26	64.00	17,574.56	51.50	905,025.44
2008	11,514,810.25	64.00	179,915.52	52.19	9,389,145.53
2009	2,680,789.05	64.00	41,886.54	52.88	2,214,955.31
2010	6,827,436.70	64.00	106,676.69	53.57	5,715,189.56
2011	3,990,494.35	64.00	62,350.30	54.27	3,383,980.56
2012	434,935.88	64.00	6,795.75	54.97	373,588.63
2013	11,736,737.00	64.00	183,383.06	55.68	10,210,480.87
2014	5,546,949.12	64.00	86,669.45	56.39	4,886,897.35
2015	3,368,514.59	64.00	52,632.05	57.09	3,005,014.68
2016	1,510,135.68	64.00	23,595.43	57.81	1,364,004.10
2017	14,989,852.30	64.00	234,212.03	58.52	13,706,872.30
2018	4,896,934.38	64.00	76,513.16	59.24	4,532,874.95
2019	3,964,783.38	64.00	61,948.57	59.96	3,714,732.83
2020	2,838,505.98	64.00	44,350.82	60.69	2,691,709.60
2021	2,265,759.04	64.00	35,401.82	61.42	2,174,410.29
2023	654,141.85	64.00	10,220.77	62.89	642,784.84
Total	78,494,768.88	64.00	1,226,457.68	56.28	69,026,915.24

Composite Average Remaining Life ... 56.28 Years

FE 2024 Study - Pennsylvania Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1924	1,028.94	70.00	14.70	7.28	107.08
1927	16,000.14	70.00	228.57	7.96	1,819.72
1930	1,129.76	70.00	16.14	8.67	140.01
1938	108.68	70.00	1.55	10.75	16.68
1940	16,059.38	70.00	229.42	11.32	2,597.57
1942	413.93	70.00	5.91	11.93	70.56
1948	395.57	70.00	5.65	14.01	79.15
1949	436.76	70.00	6.24	14.39	89.80
1955	30.81	70.00	0.44	16.96	7.46
1956	1,235.19	70.00	17.65	17.43	307.55
1957	14,776.43	70.00	211.09	17.91	3,781.59
1958	2,434.59	70.00	34.78	18.41	640.29
1959	827.01	70.00	11.81	18.92	223.49
1960	20.49	70.00	0.29	19.44	5.69
1965	24,564.84	70.00	350.93	22.22	7,796.66
1966	8,380.60	70.00	119.72	22.80	2,730.22
1967	25,063.13	70.00	358.04	23.41	8,380.74
1968	12,336.55	70.00	176.24	24.02	4,232.42
1969	12,199.58	70.00	174.28	24.64	4,293.88
1970	98,950.46	70.00	1,413.58	25.27	35,716.76
1971	70,282.82	70.00	1,004.04	25.91	26,012.85
1972	21,009.71	70.00	300.14	26.56	7,970.69
1973	56,651.71	70.00	809.31	27.21	22,023.94
1974	178,014.07	70.00	2,543.05	27.88	70,908.21
1975	81,772.16	70.00	1,168.17	28.56	33,360.35
1976	27,766.53	70.00	396.66	29.24	11,600.13
1977	6,907.11	70.00	98.67	29.94	2,953.88

FE 2024 Study - Pennsylvania Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1978	34,373.41	70.00	491.05	30.64	15,044.98
1979	39,178.03	70.00	559.69	31.35	17,544.42
1980	18,030.39	70.00	257.58	32.06	8,258.47
1981	27,538.79	70.00	393.41	32.79	12,899.51
1982	30,790.19	70.00	439.86	33.52	14,743.96
1983	22,711.90	70.00	324.46	34.26	11,116.09
1984	17,031.32	70.00	243.30	35.01	8,517.24
1985	21,204.52	70.00	302.92	35.76	10,832.91
1986	52,458.65	70.00	749.41	36.52	27,369.67
1987	22,264.38	70.00	318.06	37.29	11,859.88
1988	48,369.68	70.00	690.99	38.06	26,302.22
1989	47,163.38	70.00	673.76	38.84	26,171.82
1990	58,579.68	70.00	836.85	39.63	33,167.30
1991	57,714.93	70.00	824.50	40.43	33,331.80
1992	82,881.85	70.00	1,184.02	41.23	48,815.31
1993	82,221.04	70.00	1,174.58	42.03	49,373.13
1994	519,836.33	70.00	7,426.22	42.85	318,185.27
1995	615,107.36	70.00	8,787.24	43.67	383,710.31
1996	848,551.15	70.00	12,122.14	44.49	539,322.70
1997	486,383.47	70.00	6,948.33	45.32	314,916.56
1998	501,843.86	70.00	7,169.19	46.16	330,918.34
1999	457,127.24	70.00	6,530.38	47.00	306,936.35
2000	159,679.46	70.00	2,281.13	47.85	109,148.56
2001	147,759.54	70.00	2,110.85	48.70	102,798.89
2002	131,297.39	70.00	1,875.67	49.56	92,958.22
2003	290,964.33	70.00	4,156.63	50.42	209,587.27
2004	192,494.74	70.00	2,749.92	51.29	141,048.52

FE 2024 Study - Pennsylvania Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	178,456.32	70.00	2,549.37	52.16	132,986.93
2006	199,276.27	70.00	2,846.80	53.04	151,003.79
2007	103,033.86	70.00	1,471.91	53.93	79,373.86
2008	177,027.62	70.00	2,528.96	54.81	138,617.92
2009	86,198.56	70.00	1,231.41	55.71	68,595.50
2010	82,935.63	70.00	1,184.79	56.60	67,059.70
2011	196,737.37	70.00	2,810.53	57.50	161,609.24
2012	119,386.39	70.00	1,705.52	58.41	99,610.93
2013	418,647.78	70.00	5,980.67	59.31	354,736.37
2014	188,923.78	70.00	2,698.91	60.23	162,542.84
2015	127,021.14	70.00	1,814.59	61.14	110,944.35
2016	162,492.45	70.00	2,321.32	62.06	144,061.82
2017	83,198.52	70.00	1,188.55	62.98	74,857.70
2018	74,901.96	70.00	1,070.03	63.91	68,384.28
2019	24,720.33	70.00	353.15	64.84	22,897.25
2020	25,427.39	70.00	363.25	65.77	23,890.92
2021	27,474.99	70.00	392.50	66.71	26,181.75
2022	90,802.04	70.00	1,297.17	67.64	87,744.08
2023	16,893.07	70.00	241.33	68.58	16,551.35
2024	76,558.70	70.00	1,093.69	69.53	76,041.42
Total	8,152,468.13	70.00	116,463.67	47.40	5,520,439.11

Composite Average Remaining Life ... 47.40 Years

FE 2024 Study - Pennsylvania Power
Electric Division
366.10 Underground Conduit - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	64,301.63	70.00	918.59	27.21	24,997.92
2000	352.23	70.00	5.03	47.85	240.77
Total	64,653.86	70.00	923.63	27.33	25,238.69

Composite Average Remaining Life ... 27.33 Years

FE 2024 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	10,285.12	50.00	205.70	8.99	1,849.34
1968	22,229.99	50.00	444.60	9.33	4,149.05
1969	15,813.73	50.00	316.27	9.69	3,064.44
1970	89,021.67	50.00	1,780.43	10.06	17,915.13
1971	117,674.47	50.00	2,353.48	10.45	24,598.20
1972	175,128.71	50.00	3,502.57	10.86	38,032.08
1973	155,649.93	50.00	3,112.99	11.28	35,121.15
1974	136,750.77	50.00	2,735.01	11.72	32,063.44
1975	227,908.29	50.00	4,558.15	12.18	55,527.83
1976	139,332.67	50.00	2,786.65	12.66	35,274.26
1977	78,130.48	50.00	1,562.61	13.15	20,551.28
1978	141,044.13	50.00	2,820.88	13.66	38,540.80
1979	232,983.22	50.00	4,659.65	14.19	66,122.19
1980	277,030.85	50.00	5,540.60	14.73	81,638.40
1981	363,111.84	50.00	7,262.22	15.29	111,074.98
1982	215,223.33	50.00	4,304.46	15.87	68,315.82
1983	283,245.20	50.00	5,664.89	16.46	93,256.75
1984	400,673.67	50.00	8,013.45	17.07	136,775.77
1985	353,015.58	50.00	7,060.29	17.69	124,886.53
1986	665,521.45	50.00	13,310.40	18.32	243,881.77
1987	635,828.59	50.00	12,716.54	18.97	241,233.26
1988	1,147,777.96	50.00	22,955.50	19.63	450,622.66
1989	788,874.67	50.00	15,777.45	20.30	320,328.30
1990	1,122,167.11	50.00	22,443.29	20.99	471,029.78
1991	1,139,591.49	50.00	22,791.77	21.68	494,212.72
1992	1,487,860.47	50.00	29,757.14	22.39	666,302.40
1993	1,914,572.71	50.00	38,291.36	23.11	884,906.27

FE 2024 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	3,224,372.22	50.00	64,487.28	23.84	1,537,307.32
1995	1,147,305.37	50.00	22,946.05	24.58	563,977.03
1996	1,337,477.80	50.00	26,749.49	25.33	677,510.19
1997	1,966,657.99	50.00	39,333.06	26.09	1,026,097.71
1998	2,759,545.20	50.00	55,190.77	26.86	1,482,230.22
1999	5,665,389.67	50.00	113,307.51	27.63	3,131,252.77
2000	1,290,172.74	50.00	25,803.39	28.42	733,402.61
2001	1,210,839.86	50.00	24,216.74	29.22	707,599.97
2002	1,476,774.59	50.00	29,535.42	30.03	886,801.13
2003	1,828,316.37	50.00	36,566.24	30.84	1,127,672.05
2004	1,524,465.97	50.00	30,489.24	31.66	965,341.67
2005	2,130,079.46	50.00	42,601.48	32.49	1,384,226.99
2006	1,788,673.44	50.00	35,773.38	33.33	1,192,369.31
2007	1,063,958.51	50.00	21,279.12	34.18	727,270.76
2008	1,038,311.61	50.00	20,766.18	35.03	727,474.68
2009	1,578,411.48	50.00	31,568.15	35.89	1,133,076.80
2010	1,047,911.57	50.00	20,958.18	36.76	770,452.99
2011	2,580,535.54	50.00	51,610.58	37.64	1,942,451.87
2012	2,737,333.20	50.00	54,746.53	38.52	2,108,756.88
2013	2,810,964.54	50.00	56,219.15	39.41	2,215,414.17
2014	2,850,755.45	50.00	57,014.97	40.30	2,297,764.22
2015	3,925,662.15	50.00	78,513.05	41.20	3,234,836.36
2016	3,919,578.24	50.00	78,391.37	42.11	3,300,831.19
2017	4,511,978.77	50.00	90,239.35	43.02	3,881,940.39
2018	5,045,654.51	50.00	100,912.84	43.93	4,433,564.75
2019	3,839,725.89	50.00	76,794.33	44.86	3,444,673.75
2020	3,189,179.89	50.00	63,783.44	45.78	2,920,116.35

FE 2024 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	3,282,017.21	50.00	65,640.18	46.71	3,066,189.67
2022	4,137,796.60	50.00	82,755.73	47.65	3,943,033.10
2023	3,753,006.75	50.00	75,059.95	48.59	3,646,804.09
2024	5,354,333.82	50.00	107,086.41	49.53	5,303,731.46
Total	96,353,634.51	50.00	1,927,067.90	35.95	69,275,447.02

Composite Average Remaining Life ... 35.95 Years

FE 2024 Study - Pennsylvania Power
Electric Division
367.10 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	34,544.79	50.00	690.89	11.28	7,794.75
2000	490.91	50.00	9.82	28.42	279.06
2009	1,034.11	50.00	20.68	35.89	742.35
2012	68,827.49	50.00	1,376.55	38.52	53,022.57
2014	0.04	50.00	0.00	40.30	0.03
2016	0.12	50.00	0.00	42.11	0.10
2018	0.13	50.00	0.00	43.93	0.11
2019	3,183.54	50.00	63.67	44.86	2,856.00
Total	108,081.13	50.00	2,161.62	29.93	64,694.98

Composite Average Remaining Life ... 29.93 Years

FE 2024 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 43 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	3,318.65	0.00	0.00	0.00	0.00
1930	3,128.08	0.00	0.00	0.00	0.00
1931	2,098.58	0.00	0.00	0.00	0.00
1932	710.72	0.00	0.00	0.00	0.00
1933	1,383.37	0.00	0.00	0.00	0.00
1934	1,372.99	0.00	0.00	0.00	0.00
1935	1,309.41	0.00	0.00	0.00	0.00
1936	58.29	0.00	0.00	0.00	0.00
1937	165.99	0.00	0.00	0.00	0.00
1938	145.06	0.00	0.00	0.00	0.00
1939	104.90	43.00	2.44	0.50	1.22
1940	7.81	43.00	0.18	0.71	0.13
1941	5.27	43.00	0.12	0.99	0.12
1942	2,623.62	43.00	61.01	1.33	80.92
1943	970.75	43.00	22.58	1.66	37.53
1944	1,040.36	43.00	24.19	1.99	48.11
1945	9,226.87	43.00	214.58	2.32	498.18
1946	4,090.05	43.00	95.12	2.63	250.39
1948	8,951.66	43.00	208.18	3.15	655.42
1949	222.37	43.00	5.17	3.39	17.51
1950	72.74	43.00	1.69	3.60	6.09
1951	1,731.79	43.00	40.27	3.83	154.16
1952	3,273.08	43.00	76.12	4.06	308.92
1953	7,295.62	43.00	169.66	4.28	726.97
1955	139.15	43.00	3.24	4.78	15.46
1956	2,885.26	43.00	67.10	5.03	337.30
1957	75,056.65	43.00	1,745.48	5.29	9,233.41

FE 2024 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	91,084.29	43.00	2,118.21	5.56	11,776.35
1959	145,251.60	43.00	3,377.89	5.83	19,691.44
1960	110,227.21	43.00	2,563.39	6.11	15,660.53
1961	105,241.96	43.00	2,447.45	6.39	15,650.48
1962	90,646.90	43.00	2,108.04	6.68	14,082.91
1963	107,156.26	43.00	2,491.97	6.97	17,381.14
1964	100,010.83	43.00	2,325.80	7.27	16,919.23
1965	86,198.86	43.00	2,004.59	7.58	15,188.03
1966	142,043.76	43.00	3,303.29	7.89	26,052.72
1967	311,309.85	43.00	7,239.66	8.20	59,392.28
1968	214,172.72	43.00	4,980.69	8.53	42,462.30
1969	211,268.47	43.00	4,913.15	8.86	43,511.41
1970	220,075.81	43.00	5,117.97	9.20	47,060.04
1971	268,465.31	43.00	6,243.29	9.54	59,570.29
1972	313,625.99	43.00	7,293.52	9.90	72,191.62
1973	312,045.97	43.00	7,256.77	10.26	74,486.42
1974	368,883.47	43.00	8,578.56	10.64	91,280.57
1975	316,204.23	43.00	7,353.48	11.03	81,091.86
1976	395,223.58	43.00	9,191.11	11.43	105,015.96
1977	505,359.75	43.00	11,752.38	11.84	139,094.65
1978	673,962.33	43.00	15,673.31	12.26	192,101.62
1979	859,161.95	43.00	19,980.21	12.69	253,538.65
1980	719,175.94	43.00	16,724.77	13.13	219,678.02
1981	710,254.32	43.00	16,517.30	13.59	224,503.71
1982	842,687.28	43.00	19,597.09	14.06	275,558.17
1983	785,130.45	43.00	18,258.58	14.54	265,522.05
1984	993,321.61	43.00	23,100.16	15.04	347,360.55

FE 2024 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	822,118.05	43.00	19,118.74	15.54	297,159.98
1986	1,348,446.87	43.00	31,358.76	16.06	503,634.47
1987	1,151,321.32	43.00	26,774.52	16.59	444,232.77
1988	1,333,825.30	43.00	31,018.73	17.13	531,451.75
1989	1,162,253.15	43.00	27,028.74	17.69	478,038.56
1990	1,489,999.78	43.00	34,650.64	18.25	632,465.99
1991	1,170,862.88	43.00	27,228.96	18.83	512,689.54
1992	1,608,205.79	43.00	37,399.58	19.42	726,145.58
1993	1,453,402.51	43.00	33,799.56	20.02	676,517.33
1994	1,384,516.19	43.00	32,197.57	20.62	664,058.11
1995	1,373,815.60	43.00	31,948.72	21.24	678,704.51
1996	1,278,077.04	43.00	29,722.28	21.87	650,158.96
1997	1,092,615.37	43.00	25,409.28	22.51	572,062.63
1998	1,554,348.69	43.00	36,147.11	23.16	837,267.50
1999	1,180,831.10	43.00	27,460.78	23.82	654,185.27
2000	786,972.23	43.00	18,301.41	24.49	448,203.73
2001	872,500.04	43.00	20,290.40	25.17	510,633.76
2002	1,041,534.43	43.00	24,221.37	25.85	626,178.45
2003	2,673,685.32	43.00	62,177.80	26.55	1,650,537.57
2004	4,929,887.01	43.00	114,646.83	27.25	3,123,698.74
2005	5,166,764.15	43.00	120,155.52	27.96	3,359,057.24
2006	4,540,811.39	43.00	105,598.69	28.67	3,027,715.04
2007	5,503,617.04	43.00	127,989.19	29.39	3,762,202.99
2008	5,313,947.86	43.00	123,578.34	30.13	3,722,831.19
2009	5,048,388.92	43.00	117,402.65	30.86	3,623,217.59
2010	5,558,270.24	43.00	129,260.17	31.60	4,085,095.82
2011	5,352,219.25	43.00	124,468.36	32.35	4,026,893.55

FE 2024 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	3,486,988.13	43.00	81,091.54	33.11	2,684,688.51
2013	3,157,599.53	43.00	73,431.45	33.87	2,486,865.74
2014	4,176,248.89	43.00	97,120.62	34.63	3,363,528.47
2015	4,089,683.52	43.00	95,107.50	35.40	3,367,129.81
2016	3,845,543.98	43.00	89,429.92	36.18	3,235,547.28
2017	3,681,967.50	43.00	85,625.88	36.96	3,164,922.37
2018	4,289,382.04	43.00	99,751.59	37.75	3,765,588.93
2019	4,819,473.94	43.00	112,079.12	38.54	4,319,798.24
2020	5,345,850.61	43.00	124,320.26	39.34	4,890,914.25
2021	4,733,600.92	43.00	110,082.10	40.15	4,419,246.63
2022	5,446,738.87	43.00	126,666.46	40.95	5,187,496.07
2023	5,335,492.73	43.00	124,079.38	41.77	5,182,663.92
2024	6,914,583.21	43.00	160,801.87	42.59	6,848,356.12
Total	135,645,971.18	38.43	3,154,192.10	30.59	96,499,979.79

Composite Average Remaining Life ... 30.59 Years

FE 2024 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1942	118.49	60.00	1.97	1.93	3.81
1943	57.94	60.00	0.97	2.18	2.10
1944	129.78	60.00	2.16	2.40	5.20
1945	172.17	60.00	2.87	2.67	7.66
1946	4,690.77	60.00	78.18	2.90	226.72
1947	11,825.73	60.00	197.09	3.15	620.28
1948	14,670.65	60.00	244.51	3.40	832.35
1949	17,234.41	60.00	287.24	3.67	1,055.00
1950	22,981.24	60.00	383.02	3.93	1,505.87
1951	24,696.87	60.00	411.61	4.21	1,733.12
1952	33,124.73	60.00	552.08	4.47	2,469.49
1953	36,576.21	60.00	609.60	4.75	2,893.01
1954	36,497.69	60.00	608.29	5.03	3,058.33
1955	43,128.86	60.00	718.81	5.32	3,825.15
1956	56,918.96	60.00	948.65	5.62	5,328.80
1957	59,415.40	60.00	990.25	5.93	5,873.57
1958	51,968.77	60.00	866.14	6.25	5,412.53
1959	55,079.69	60.00	917.99	6.58	6,043.96
1960	48,812.77	60.00	813.54	6.94	5,643.37
1961	49,483.10	60.00	824.72	7.31	6,027.49
1962	100,461.07	60.00	1,674.35	7.70	12,893.86
1963	56,570.22	60.00	942.83	8.12	7,652.11
1964	58,025.06	60.00	967.08	8.55	8,272.42
1965	63,517.49	60.00	1,058.62	9.02	9,549.06
1966	76,403.48	60.00	1,273.39	9.51	12,113.44
1967	81,795.79	60.00	1,363.26	10.03	13,673.20
1968	100,719.72	60.00	1,678.66	10.58	17,757.34

FE 2024 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	96,043.17	60.00	1,600.72	11.15	17,842.47
1970	113,875.71	60.00	1,897.92	11.75	22,297.01
1971	150,459.60	60.00	2,507.65	12.37	31,021.24
1972	232,688.31	60.00	3,878.13	13.01	50,460.24
1973	300,420.03	60.00	5,006.99	13.67	68,429.65
1974	313,446.70	60.00	5,224.10	14.34	74,910.06
1975	255,864.65	60.00	4,264.40	15.02	64,048.72
1976	204,195.68	60.00	3,403.25	15.72	53,484.50
1977	216,388.85	60.00	3,606.47	16.42	59,227.33
1978	292,998.46	60.00	4,883.29	17.14	83,701.36
1979	298,826.98	60.00	4,980.44	17.87	88,992.57
1980	317,176.41	60.00	5,286.26	18.61	98,386.04
1981	353,413.13	60.00	5,890.20	19.36	114,053.30
1982	356,764.54	60.00	5,946.06	20.13	119,709.07
1983	413,812.89	60.00	6,896.86	20.91	144,237.67
1984	454,955.71	60.00	7,582.57	21.71	164,589.48
1985	478,222.48	60.00	7,970.35	22.51	179,410.44
1986	665,651.83	60.00	11,094.17	23.33	258,803.46
1987	736,613.79	60.00	12,276.86	24.15	296,539.69
1988	1,100,478.26	60.00	18,341.25	25.00	458,474.69
1989	1,044,308.02	60.00	17,405.09	25.85	449,921.78
1990	1,474,130.85	60.00	24,568.78	26.71	656,315.94
1991	927,830.93	60.00	15,463.81	27.59	426,584.74
1992	888,748.04	60.00	14,812.43	28.47	421,719.89
1993	1,050,645.91	60.00	17,510.72	29.36	514,153.99
1994	1,827,276.44	60.00	30,454.52	30.27	921,745.48
1995	2,101,577.89	60.00	35,026.20	31.18	1,092,060.93

FE 2024 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1996	2,173,069.01	60.00	36,217.72	32.10	1,162,523.89
1997	827,215.58	60.00	13,786.89	33.02	455,309.22
1998	239,076.43	60.00	3,984.60	33.96	135,316.41
1999	3,180,088.82	60.00	53,001.33	34.90	1,849,739.19
2000	133,997.03	60.00	2,233.28	35.85	80,058.88
2001	216,154.17	60.00	3,602.56	36.80	132,580.52
2002	223,690.62	60.00	3,728.17	37.76	140,776.67
2003	478,017.28	60.00	7,966.93	38.72	308,504.38
2004	820,976.53	60.00	13,682.90	39.69	543,089.07
2005	934,104.01	60.00	15,568.36	40.66	633,040.02
2006	1,596,901.57	60.00	26,614.95	41.64	1,108,184.27
2007	964,875.15	60.00	16,081.21	42.62	685,321.78
2008	809,159.00	60.00	13,485.95	43.60	587,948.47
2009	1,019,896.11	60.00	16,998.22	44.58	757,803.61
2010	887,866.74	60.00	14,797.74	45.57	674,298.34
2011	1,240,142.22	60.00	20,668.98	46.56	962,254.34
2012	1,101,361.31	60.00	18,355.97	47.55	872,746.54
2013	747,698.07	60.00	12,461.60	48.54	604,851.48
2014	1,185,043.73	60.00	19,750.67	49.53	978,252.08
2015	1,046,986.64	60.00	17,449.73	50.52	881,628.99
2016	997,504.93	60.00	16,625.04	51.52	856,504.65
2017	905,938.82	60.00	15,098.94	52.51	792,915.48
2018	1,064,904.07	60.00	17,748.35	53.51	949,737.18
2019	1,209,743.80	60.00	20,162.34	54.51	1,099,018.83
2020	1,325,164.69	60.00	22,086.02	55.51	1,225,910.60
2021	1,159,659.24	60.00	19,327.60	56.50	1,092,091.98
2022	1,197,290.45	60.00	19,954.79	57.50	1,147,455.61

FE 2024 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	1,400,032.71	60.00	23,333.81	58.50	1,365,063.21
2024	1,073,455.35	60.00	17,890.87	59.50	1,064,517.04
Total	47,931,906.40	60.00	798,862.90	37.82	30,213,043.73

Composite Average Remaining Life ... *37.82 Years*

FE 2024 Study - Pennsylvania Power
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	4,696.33	15.00	313.09	3.26	1,020.10
2010	1,312.62	15.00	87.51	4.02	351.41
2013	112,812.40	15.00	7,520.83	5.43	40,829.41
2014	4,824,233.72	15.00	321,615.59	5.99	1,927,361.46
2015	23,572,863.55	15.00	1,571,524.30	6.61	10,388,766.21
2016	7,523,051.33	15.00	501,536.77	7.29	3,654,092.70
2017	1,330,888.65	15.00	88,725.91	8.02	711,797.84
2018	3,355,238.92	15.00	223,682.60	8.82	1,972,799.19
2019	2,040,884.35	15.00	136,058.96	9.67	1,316,268.69
2020	1,562,605.39	15.00	104,173.70	10.58	1,102,300.60
2021	1,700,868.17	15.00	113,391.22	11.53	1,307,390.23
2022	1,397,185.65	15.00	93,145.71	12.51	1,164,993.57
2023	1,500,360.84	15.00	100,024.06	13.50	1,350,403.66
2024	2,223,646.83	15.00	148,243.13	14.50	2,149,526.09
Total	51,150,648.75	15.00	3,410,043.38	7.94	27,087,901.18

Composite Average Remaining Life ... 7.94 Years

FE 2024 Study - Pennsylvania Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 33 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1985	46,710.65	33.00	1,415.46	6.41	9,077.80
1986	137,608.86	33.00	4,169.94	6.79	28,297.24
1987	334,076.14	33.00	10,123.45	7.17	72,629.39
1988	184,422.49	33.00	5,588.52	7.58	42,356.27
1989	247,965.55	33.00	7,514.05	8.00	60,119.74
1990	362,486.95	33.00	10,984.37	8.44	92,711.34
1991	419,238.49	33.00	12,704.11	8.90	113,034.03
1992	318,064.59	33.00	9,638.25	9.37	90,343.92
1993	313,659.03	33.00	9,504.75	9.87	93,781.98
1994	55,391.25	33.00	1,678.51	10.38	17,420.13
1995	32,730.45	33.00	991.82	10.91	10,818.61
1996	72,142.69	33.00	2,186.13	11.46	25,042.23
1997	49,661.04	33.00	1,504.87	12.02	18,088.43
1998	50,327.87	33.00	1,525.08	12.60	19,219.14
1999	29,562.60	33.00	895.83	13.20	11,826.02
2000	38,279.49	33.00	1,159.98	13.82	16,027.24
2001	17,593.88	33.00	533.14	14.45	7,703.26
2002	22,648.18	33.00	686.30	15.10	10,360.70
2003	45,148.08	33.00	1,368.11	15.76	21,560.61
2004	72,212.72	33.00	2,188.25	16.44	35,968.89
2005	82,525.68	33.00	2,500.76	17.13	42,837.35
2006	120,445.73	33.00	3,649.84	17.84	65,099.56
2007	48,817.26	33.00	1,479.30	18.56	27,450.60
2008	51,803.85	33.00	1,569.80	19.29	30,281.46
2009	35,007.31	33.00	1,060.82	20.04	21,255.02
2010	82,292.82	33.00	2,493.70	20.80	51,857.47
2011	103,461.02	33.00	3,135.16	21.57	67,614.41

FE 2024 Study - Pennsylvania Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 33 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2012	69,333.80	33.00	2,101.01	22.35	46,956.42
2013	83,293.12	33.00	2,524.02	23.14	58,415.60
2014	43,479.38	33.00	1,317.55	23.95	31,554.63
2015	62,242.06	33.00	1,886.11	24.77	46,711.29
2016	32,703.16	33.00	991.00	25.59	25,362.48
2017	42,910.36	33.00	1,300.30	26.43	34,367.03
2018	55,902.08	33.00	1,693.99	27.28	46,206.89
2019	39,854.19	33.00	1,207.69	28.13	33,976.59
2020	61,312.15	33.00	1,857.93	29.00	53,878.40
2021	61,247.66	33.00	1,855.98	29.87	55,444.93
2022	79,689.83	33.00	2,414.83	30.76	74,272.42
2023	85,940.05	33.00	2,604.23	31.65	82,418.98
Total	4,092,192.51	33.00	124,004.94	13.65	1,692,348.49

Composite Average Remaining Life ... 13.65 Years

FE 2024 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 20 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1927	1,912.50	0.00	0.00	0.00	0.00
1928	3,172.02	0.00	0.00	0.00	0.00
1929	579.82	0.00	0.00	0.00	0.00
1930	1,904.40	0.00	0.00	0.00	0.00
1931	1,019.88	0.00	0.00	0.00	0.00
1935	123.90	0.00	0.00	0.00	0.00
1937	1,689.00	0.00	0.00	0.00	0.00
1939	342.42	0.00	0.00	0.00	0.00
1940	811.75	0.00	0.00	0.00	0.00
1948	3,231.85	0.00	0.00	0.00	0.00
1953	775.28	0.00	0.00	0.00	0.00
1954	4,270.30	0.00	0.00	0.00	0.00
1955	1,111.66	0.00	0.00	0.00	0.00
1958	948.17	0.00	0.00	0.00	0.00
1959	23.90	0.00	0.00	0.00	0.00
1960	360.19	0.00	0.00	0.00	0.00
1961	2,093.58	0.00	0.00	0.00	0.00
1962	4,499.37	0.00	0.00	0.00	0.00
1963	5,451.99	0.00	0.00	0.00	0.00
1964	7,620.17	0.00	0.00	0.00	0.00
1965	20,141.21	0.00	0.00	0.00	0.00
1966	20,317.48	0.00	0.00	0.00	0.00
1967	40,762.61	0.00	0.00	0.00	0.00
1968	2,878.70	0.00	0.00	0.00	0.00
1969	4,191.28	0.00	0.00	0.00	0.00
1970	60,407.67	0.00	0.00	0.00	0.00
1971	18,539.14	0.00	0.00	0.00	0.00

FE 2024 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1972	2,638.38	0.00	0.00	0.00	0.00
1973	171.45	0.00	0.00	0.00	0.00
1974	26,153.04	0.00	0.00	0.00	0.00
1975	47,621.32	0.00	0.00	0.00	0.00
1976	5,999.36	0.00	0.00	0.00	0.00
1977	2,917.04	0.00	0.00	0.00	0.00
1978	3,723.56	0.00	0.00	0.00	0.00
1979	62,367.19	0.00	0.00	0.00	0.00
1980	40,075.93	0.00	0.00	0.00	0.00
1981	4,866.35	0.00	0.00	0.00	0.00
1982	43,595.88	0.00	0.00	0.00	0.00
1983	12,389.27	0.00	0.00	0.00	0.00
1984	5,643.21	0.00	0.00	0.00	0.00
1985	47,352.31	0.00	0.00	0.00	0.00
1986	5,938.93	0.00	0.00	0.00	0.00
1987	4,405.93	0.00	0.00	0.00	0.00
1988	407.22	20.00	20.36	0.50	10.18
1990	6,438.98	20.00	321.94	0.78	250.50
1991	14,973.07	20.00	748.64	1.02	763.31
1992	9,350.39	20.00	467.51	1.29	604.78
1993	5,304.16	20.00	265.20	1.57	415.76
1994	32,915.03	20.00	1,645.72	1.86	3,052.83
1995	18,056.43	20.00	902.80	2.14	1,930.82
1996	51,802.01	20.00	2,590.05	2.43	6,297.24
1997	32,832.30	20.00	1,641.58	2.73	4,474.05
1998	14,084.12	20.00	704.19	3.03	2,136.21
1999	24,874.23	20.00	1,243.69	3.35	4,170.74

FE 2024 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 20 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
2000	9,293.15	20.00	464.65	3.69	1,716.68
2001	22,331.44	20.00	1,116.55	4.06	4,529.78
2002	36,679.27	20.00	1,833.93	4.45	8,152.60
2003	71,151.56	20.00	3,557.51	4.86	17,294.65
2004	112,027.26	20.00	5,601.25	5.31	29,722.38
2005	122,350.68	20.00	6,117.41	5.78	35,364.77
2006	121,224.92	20.00	6,061.13	6.28	38,093.96
2007	87,206.40	20.00	4,360.23	6.82	29,736.66
2008	78,487.17	20.00	3,924.28	7.38	28,972.19
2009	89,758.16	20.00	4,487.82	7.98	35,792.83
2010	218,878.19	20.00	10,943.69	8.59	94,052.81
2011	197,715.94	20.00	9,885.60	9.24	91,351.01
2012	142,334.27	20.00	7,116.57	9.91	70,533.16
2013	219,799.12	20.00	10,989.74	10.61	116,567.21
2014	259,745.26	20.00	12,987.01	11.32	147,068.20
2015	209,562.66	20.00	10,477.93	12.06	126,413.81
2016	157,605.53	20.00	7,880.12	12.82	101,061.32
2017	225,953.32	20.00	11,297.44	13.61	153,712.36
2018	77,571.79	20.00	3,878.51	14.40	55,869.25
2019	103,121.61	20.00	5,155.98	15.22	78,485.63
2020	63,941.19	20.00	3,197.00	16.06	51,333.55
2021	62,803.46	20.00	3,140.11	16.91	53,092.99
2022	195,728.36	20.00	9,786.22	17.77	173,937.11
2023	95,075.32	20.00	4,753.67	18.65	88,677.77
2024	97,416.84	20.00	4,870.75	19.55	95,214.79

FE 2024 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	3,813,840.20	9.11	164,436.78	10.65	1,750,853.91

Composite Average Remaining Life ... *10.65 Years*

FE 2024 Study - Pennsylvania Power
Electric Division
373.20 Street Lighting and Signal Systems - ESIP
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	2,923.22	20.00	146.16	6.82	996.79
2009	3,092.00	20.00	154.60	7.98	1,233.00
2011	582.10	20.00	29.10	9.24	268.95
2012	1,646.55	20.00	82.33	9.91	815.94
2013	6,101.49	20.00	305.07	10.61	3,235.83
2014	4,093.59	20.00	204.68	11.32	2,317.80
2015	5,287.97	20.00	264.39	12.06	3,189.85
2016	641.39	20.00	32.07	12.82	411.28
2017	609.98	20.00	30.50	13.61	414.96
Total	24,978.29	20.00	1,248.89	10.32	12,884.39

Composite Average Remaining Life ... 10.32 Years

FE 2024 Study - Pennsylvania Power
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	1,711,950.52	20.00	85,595.83	12.82	1,097,753.21
2017	611,764.19	20.00	30,587.60	13.61	416,173.19
2018	294,264.20	20.00	14,712.92	14.40	211,936.86
2019	256,409.99	20.00	12,820.25	15.22	195,153.07
2020	293,312.33	20.00	14,665.33	16.06	235,478.30
2021	342,689.85	20.00	17,134.15	16.91	289,704.27
2022	450,425.97	20.00	22,520.85	17.77	400,278.19
2023	509,836.24	20.00	25,491.31	18.65	475,529.75
2024	449,906.92	20.00	22,494.90	19.55	439,737.03
Total	4,920,560.21	20.00	246,023.13	15.29	3,761,743.87

Composite Average Remaining Life ... 15.29 Years

FE 2024 Study - West Penn Power
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1903	1,346.13	0.00	0.00	0.00	0.00
1905	531.48	0.00	0.00	0.00	0.00
1906	5,832.20	0.00	0.00	0.00	0.00
1907	2,066.98	0.00	0.00	0.00	0.00
1908	689.19	0.00	0.00	0.00	0.00
1909	106.95	0.00	0.00	0.00	0.00
1910	1,707.94	0.00	0.00	0.00	0.00
1911	521.99	75.00	6.96	0.50	3.48
1912	30,138.83	75.00	401.85	0.62	248.83
1913	8,547.09	75.00	113.96	0.77	87.19
1914	8,099.79	75.00	108.00	0.84	90.96
1915	7,919.63	75.00	105.59	1.08	113.99
1916	5,844.20	75.00	77.92	1.30	101.10
1917	4,783.88	75.00	63.78	1.44	91.67
1918	4,029.44	75.00	53.73	1.67	89.81
1919	1,749.99	75.00	23.33	1.91	44.46
1921	12,313.14	75.00	164.17	2.32	381.70
1922	6,268.83	75.00	83.58	2.57	214.86
1923	27,574.85	75.00	367.66	2.78	1,021.36
1924	29,796.03	75.00	397.28	3.03	1,203.27
1925	26,376.16	75.00	351.68	3.29	1,155.39
1926	33,323.32	75.00	444.31	3.51	1,561.05
1927	44,437.95	75.00	592.50	3.77	2,235.66
1928	17,664.58	75.00	235.53	4.04	951.10
1929	20,292.42	75.00	270.56	4.28	1,158.17
1930	19,568.32	75.00	260.91	4.55	1,186.45
1931	15,318.04	75.00	204.24	4.82	984.20

FE 2024 Study - West Penn Power
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1932	37,636.02	75.00	501.81	5.07	2,545.41
1933	11,954.78	75.00	159.40	5.35	852.18
1934	5,486.49	75.00	73.15	5.63	411.51
1935	6,429.77	75.00	85.73	5.89	505.11
1936	67,051.10	75.00	894.01	6.18	5,521.89
1937	17,372.38	75.00	231.63	6.47	1,498.18
1938	39,462.14	75.00	526.16	6.75	3,553.49
1939	63,470.20	75.00	846.27	7.06	5,971.76
1940	40,888.60	75.00	545.18	7.37	4,017.37
1941	60,811.18	75.00	810.81	7.68	6,229.72
1942	24,413.12	75.00	325.51	8.01	2,608.89
1943	66,033.10	75.00	880.44	8.36	7,359.48
1944	11,848.74	75.00	157.98	8.71	1,376.58
1945	38,002.57	75.00	506.70	9.09	4,603.58
1946	42,699.59	75.00	569.33	9.47	5,393.29
1947	76,458.80	75.00	1,019.45	9.88	10,071.78
1948	102,701.95	75.00	1,369.35	10.30	14,109.32
1949	113,555.41	75.00	1,514.06	10.75	16,270.60
1950	177,733.18	75.00	2,369.76	11.21	26,575.82
1951	132,312.91	75.00	1,764.16	11.70	20,640.59
1952	110,350.98	75.00	1,471.34	12.21	17,958.70
1953	80,016.27	75.00	1,066.88	12.74	13,592.66
1954	85,927.38	75.00	1,145.69	13.29	15,227.61
1955	66,923.91	75.00	892.31	13.86	12,368.76
1956	61,553.31	75.00	820.71	14.46	11,867.11
1957	69,444.12	75.00	925.92	15.07	13,953.73
1958	68,534.84	75.00	913.79	15.70	14,343.46

FE 2024 Study - West Penn Power
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1959	63,047.68	75.00	840.63	16.34	13,740.06
1960	135,140.89	75.00	1,801.87	17.00	30,633.63
1961	114,218.59	75.00	1,522.91	17.67	26,906.18
1962	110,911.42	75.00	1,478.81	18.35	27,135.21
1963	77,556.12	75.00	1,034.08	19.04	19,684.67
1964	78,839.01	75.00	1,051.18	19.73	20,740.51
1965	143,220.80	75.00	1,909.60	20.44	39,030.82
1966	74,025.53	75.00	987.00	21.15	20,878.43
1967	57,221.59	75.00	762.95	21.88	16,690.51
1968	110,813.46	75.00	1,477.51	22.61	33,412.04
1969	51,834.74	75.00	691.13	23.36	16,142.93
1970	133,210.30	75.00	1,776.13	24.11	42,822.74
1971	43,471.66	75.00	579.62	24.88	14,419.66
1972	81,637.19	75.00	1,088.49	25.65	27,921.64
1973	46,647.51	75.00	621.96	26.43	16,441.51
1974	26,882.24	75.00	358.43	27.23	9,760.92
1975	42,949.39	75.00	572.66	28.04	16,055.30
1976	17,083.94	75.00	227.78	28.85	6,571.49
1977	33,895.94	75.00	451.94	29.68	13,412.12
1978	60,649.68	75.00	808.66	30.51	24,671.79
1979	158,576.12	75.00	2,114.34	31.35	66,286.80
1980	106,745.30	75.00	1,423.26	32.21	45,837.12
1981	108,441.19	75.00	1,445.88	33.07	47,809.16
1982	106,373.60	75.00	1,418.31	33.93	48,128.93
1983	50,068.65	75.00	667.58	34.81	23,241.09
1984	186,242.84	75.00	2,483.23	35.70	88,649.15
1985	148,908.94	75.00	1,985.44	36.59	72,650.38

FE 2024 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1986	361,961.06	75.00	4,826.12	37.49	180,952.15
1987	94,952.99	75.00	1,266.03	38.40	48,617.92
1988	133,950.93	75.00	1,786.00	39.32	70,217.65
1989	130,280.43	75.00	1,737.06	40.24	69,896.52
1990	221,120.40	75.00	2,948.26	41.17	121,365.58
1991	232,572.85	75.00	3,100.96	42.10	130,542.45
1992	189,342.35	75.00	2,524.55	43.04	108,650.19
1993	84,087.10	75.00	1,121.16	43.98	49,309.34
1994	71,384.64	75.00	951.79	44.93	42,762.76
1995	502,549.76	75.00	6,700.63	45.88	307,445.00
1996	515,551.06	75.00	6,873.98	46.84	321,978.00
1997	622,579.46	75.00	8,301.02	47.80	396,796.55
1998	419,896.16	75.00	5,598.59	48.77	273,025.49
1999	121,829.14	75.00	1,624.38	49.74	80,788.70
2000	154,395.76	75.00	2,058.60	50.71	104,383.91
2001	56,673.04	75.00	755.64	51.68	39,052.40
2002	173,984.52	75.00	2,319.78	52.66	122,156.12
2003	85,817.01	75.00	1,144.22	53.64	61,373.44
2004	10,965.79	75.00	146.21	54.62	7,985.99
2005	326,906.37	75.00	4,358.73	55.60	242,362.11
2006	14,195.39	75.00	189.27	56.59	10,710.71
2007	252,085.02	75.00	3,361.12	57.58	193,523.31
2008	559,069.56	75.00	7,454.22	58.57	436,563.21
2009	7,234.71	75.00	96.46	59.56	5,744.91
2010	339,611.40	75.00	4,528.13	60.55	274,167.85
2011	549,038.03	75.00	7,320.47	61.54	450,503.19
2012	117,948.80	75.00	1,572.64	62.53	98,343.03

FE 2024 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	139,170.36	75.00	1,855.60	63.53	117,882.59
2014	3,190.18	75.00	42.54	64.52	2,744.53
2023	172.69	75.00	2.30	73.50	169.24
Total	10,877,053.47	70.27	144,862.93	37.64	5,452,042.88

Composite Average Remaining Life ... *37.64 Years*

FE 2024 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1903	3,430.33	0.00	0.00	0.00	0.00
1906	1,733.22	0.00	0.00	0.00	0.00
1912	7,453.06	70.00	106.47	1.43	151.79
1913	7,831.03	70.00	111.87	1.62	181.44
1915	25.87	70.00	0.37	2.10	0.78
1921	9,597.00	70.00	137.10	3.60	494.07
1922	1,543.59	70.00	22.05	3.85	84.90
1924	3,100.20	70.00	44.29	4.38	194.01
1925	2,154.91	70.00	30.78	4.62	142.30
1926	8,621.79	70.00	123.17	4.89	602.09
1927	1,726.86	70.00	24.67	5.14	126.69
1928	18,215.17	70.00	260.22	5.40	1,404.94
1929	17,054.22	70.00	243.63	5.65	1,376.59
1930	4,433.65	70.00	63.34	5.91	374.47
1931	73,896.27	70.00	1,055.66	6.18	6,522.51
1932	83,553.88	70.00	1,193.63	6.43	7,672.75
1933	16,261.22	70.00	232.30	6.70	1,555.47
1934	2,206.54	70.00	31.52	6.95	219.19
1935	17.45	70.00	0.25	7.23	1.80
1936	4,950.43	70.00	70.72	7.49	529.94
1937	33.85	70.00	0.48	7.77	3.76
1938	762.86	70.00	10.90	8.06	87.84
1939	7,237.46	70.00	103.39	8.34	862.59
1940	1,018.36	70.00	14.55	8.64	125.73
1941	10,665.32	70.00	152.36	8.94	1,362.60
1942	1,130.12	70.00	16.14	9.26	149.47
1943	585.21	70.00	8.36	9.58	80.08

FE 2024 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1944	624.48	70.00	8.92	9.91	88.43
1945	1,072.31	70.00	15.32	10.26	157.12
1946	771.04	70.00	11.01	10.61	116.86
1947	649.77	70.00	9.28	10.98	101.88
1948	242.40	70.00	3.46	11.35	39.31
1949	3,937.15	70.00	56.24	11.74	660.50
1950	41,187.58	70.00	588.39	12.15	7,146.94
1951	22,460.84	70.00	320.87	12.56	4,030.82
1952	17,039.01	70.00	243.41	12.99	3,162.03
1953	35,398.61	70.00	505.69	13.43	6,793.62
1954	57,275.77	70.00	818.23	13.89	11,364.44
1955	41,888.56	70.00	598.41	14.36	8,593.34
1956	23,006.17	70.00	328.66	14.84	4,878.15
1957	8,201.15	70.00	117.16	15.34	1,797.32
1958	118,833.98	70.00	1,697.63	15.85	26,908.30
1959	126,631.50	70.00	1,809.02	16.37	29,618.04
1960	26,358.41	70.00	376.55	16.91	6,368.42
1961	111,376.81	70.00	1,591.10	17.46	27,782.79
1962	67,384.84	70.00	962.64	18.03	17,353.87
1963	137,220.00	70.00	1,960.29	18.60	36,466.07
1964	111,180.35	70.00	1,588.29	19.19	30,484.34
1965	117,297.07	70.00	1,675.67	19.79	33,167.65
1966	114,741.44	70.00	1,639.16	20.40	33,446.76
1967	95,215.84	70.00	1,360.23	21.03	28,609.74
1968	175,911.13	70.00	2,513.02	21.67	54,451.99
1969	139,598.19	70.00	1,994.26	22.32	44,508.36
1970	203,137.04	70.00	2,901.96	22.98	66,674.64

FE 2024 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1971	159,840.31	70.00	2,283.43	23.65	53,995.88
1972	129,291.14	70.00	1,847.02	24.33	44,930.02
1973	79,209.37	70.00	1,131.56	25.01	28,304.30
1974	471,593.86	70.00	6,737.05	25.72	173,248.96
1975	289,025.80	70.00	4,128.94	26.42	109,100.42
1976	91,579.90	70.00	1,308.28	27.14	35,511.79
1977	236,245.15	70.00	3,374.93	27.87	94,059.61
1978	216,627.56	70.00	3,094.68	28.61	88,531.82
1979	338,386.84	70.00	4,834.10	29.35	141,890.12
1980	185,107.74	70.00	2,644.40	30.10	79,605.54
1981	380,586.16	70.00	5,436.94	30.87	167,824.61
1982	540,937.66	70.00	7,727.68	31.64	244,471.22
1983	402,375.66	70.00	5,748.22	32.42	186,329.70
1984	321,655.95	70.00	4,595.08	33.20	152,555.28
1985	831,497.93	70.00	11,878.54	33.99	403,799.10
1986	735,895.35	70.00	10,512.79	34.79	365,782.85
1987	780,857.69	70.00	11,155.11	35.60	397,129.35
1988	333,713.93	70.00	4,767.34	36.42	173,617.60
1989	960,847.26	70.00	13,726.39	37.24	511,165.06
1990	152,246.47	70.00	2,174.95	38.07	82,802.08
1991	652,942.80	70.00	9,327.75	38.91	362,911.98
1992	689,115.75	70.00	9,844.51	39.75	391,331.89
1993	998,247.95	70.00	14,260.68	40.60	578,999.45
1994	316,498.75	70.00	4,521.41	41.46	187,443.10
1995	481,610.78	70.00	6,880.15	42.32	291,181.57
1996	2,416,750.44	70.00	34,525.00	43.19	1,491,164.58
1997	31,006.63	70.00	442.95	44.07	19,520.11

FE 2024 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1998	250,111.60	70.00	3,573.02	44.95	160,606.73
1999	734,026.35	70.00	10,486.09	45.84	480,670.93
2000	14,214.76	70.00	203.07	46.73	9,489.89
2001	36,776.69	70.00	525.38	47.63	25,024.61
2002	305,623.25	70.00	4,366.05	48.54	211,919.22
2003	1,510,282.51	70.00	21,575.46	49.45	1,066,862.28
2004	261,803.49	70.00	3,740.05	50.36	188,367.00
2005	927,118.55	70.00	13,244.55	51.29	679,250.21
2006	580,841.08	70.00	8,297.73	52.21	433,238.82
2007	34,505.07	70.00	492.93	53.14	26,195.23
2008	7,441.82	70.00	106.31	54.08	5,748.93
2010	64,156.38	70.00	916.52	55.96	51,288.07
2011	30,283.45	70.00	432.62	56.91	24,619.50
2012	6,131.56	70.00	87.59	57.86	5,068.06
2013	138,389.96	70.00	1,977.00	58.81	116,275.57
2014	975,143.00	70.00	13,930.61	59.77	832,665.10
2015	577,330.25	70.00	8,247.57	60.73	500,903.39
2016	444,323.93	70.00	6,347.48	61.70	391,632.42
2017	380,083.42	70.00	5,429.76	62.67	340,261.98
2018	478,173.38	70.00	6,831.05	63.64	434,706.88
2019	375,811.58	70.00	5,368.74	64.61	346,872.02
2020	247,981.35	70.00	3,542.59	65.59	232,341.72
2021	529,703.73	70.00	7,567.20	66.56	503,693.22
2022	10,730.47	70.00	153.29	67.54	10,353.69
2023	2,392.10	70.00	34.17	68.52	2,341.67

FE 2024 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	24,234,955.87	68.68	346,139.86	41.74	14,446,684.62

Composite Average Remaining Life ... *41.74 Years*

FE 2024 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1901	2,124.82	0.00	0.00	0.00	0.00
1910	2,082.70	60.00	34.71	2.04	70.66
1911	778.24	60.00	12.97	2.37	30.69
1914	562.61	60.00	9.38	3.36	31.52
1917	786.97	60.00	13.12	4.19	55.00
1918	324.24	60.00	5.40	4.43	23.96
1919	5,936.61	60.00	98.94	4.67	462.48
1920	5,098.56	60.00	84.98	4.89	415.92
1921	67,087.66	60.00	1,118.12	5.13	5,736.82
1922	9,422.51	60.00	157.04	5.35	839.48
1923	6,095.67	60.00	101.59	5.57	565.70
1924	16,879.88	60.00	281.33	5.80	1,631.26
1925	15,636.25	60.00	260.60	6.04	1,573.81
1926	36,039.90	60.00	600.66	6.28	3,769.86
1927	23,994.84	60.00	399.91	6.53	2,611.50
1928	163,789.97	60.00	2,729.80	6.78	18,495.56
1929	25,478.24	60.00	424.63	7.03	2,984.68
1930	14,176.30	60.00	236.27	7.29	1,722.26
1931	72,416.17	60.00	1,206.92	7.56	9,122.49
1932	95,908.13	60.00	1,598.45	7.83	12,509.49
1933	23,838.52	60.00	397.30	8.11	3,220.39
1934	3,070.95	60.00	51.18	8.38	428.87
1935	10,522.00	60.00	175.36	8.66	1,518.44
1936	11,567.18	60.00	192.78	8.94	1,724.12
1937	30,718.13	60.00	511.96	9.23	4,727.53
1938	59,077.89	60.00	984.62	9.52	9,377.84
1939	51,246.79	60.00	854.10	9.82	8,390.51

FE 2024 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1940	9,335.23	60.00	155.59	10.12	1,574.53
1941	150,435.08	60.00	2,507.22	10.42	26,129.30
1942	64,810.27	60.00	1,080.16	10.73	11,588.28
1943	38,957.84	60.00	649.29	11.04	7,168.92
1944	50,767.83	60.00	846.12	11.36	9,608.46
1945	57,655.22	60.00	960.91	11.68	11,222.50
1946	173,310.14	60.00	2,888.47	12.00	34,670.61
1947	207,608.22	60.00	3,460.10	12.33	42,675.39
1948	266,856.97	60.00	4,447.57	12.67	56,352.84
1949	223,136.61	60.00	3,718.90	13.01	48,399.34
1950	229,836.11	60.00	3,830.56	13.36	51,189.23
1951	687,613.48	60.00	11,460.10	13.72	157,239.53
1952	637,566.06	60.00	10,625.98	14.08	149,645.22
1953	645,187.85	60.00	10,753.01	14.45	155,413.03
1954	639,002.82	60.00	10,649.93	14.83	157,945.96
1955	456,551.15	60.00	7,609.10	15.22	115,781.85
1956	657,152.21	60.00	10,952.41	15.61	170,960.78
1957	1,711,093.49	60.00	28,517.91	16.01	456,588.26
1958	1,265,399.04	60.00	21,089.75	16.42	346,295.09
1959	757,069.78	60.00	12,617.69	16.84	212,456.36
1960	1,413,552.86	60.00	23,558.95	17.26	406,728.45
1961	1,027,802.60	60.00	17,129.85	17.70	303,176.11
1962	1,287,602.94	60.00	21,459.81	18.14	389,331.66
1963	844,705.75	60.00	14,078.27	18.59	261,779.08
1964	1,071,113.86	60.00	17,851.70	19.05	340,160.77
1965	1,275,534.44	60.00	21,258.67	19.52	415,070.18
1966	1,695,403.89	60.00	28,256.42	20.00	565,218.76

FE 2024 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	2,102,383.42	60.00	35,039.33	20.49	717,942.33
1968	3,216,127.74	60.00	53,601.53	20.99	1,124,877.77
1969	2,907,137.99	60.00	48,451.76	21.49	1,041,182.39
1970	1,885,892.12	60.00	31,431.18	22.00	691,586.00
1971	2,513,084.98	60.00	41,884.28	22.53	943,468.39
1972	1,732,084.46	60.00	28,867.75	23.06	665,580.85
1973	1,708,653.92	60.00	28,477.25	23.59	671,901.63
1974	2,741,520.24	60.00	45,691.49	24.14	1,103,098.01
1975	3,077,769.99	60.00	51,295.59	24.70	1,266,815.36
1976	2,054,986.09	60.00	34,249.38	25.26	865,187.67
1977	3,871,313.15	60.00	64,521.16	25.83	1,666,849.96
1978	4,512,487.58	60.00	75,207.28	26.41	1,986,564.92
1979	4,560,945.86	60.00	76,014.91	27.00	2,052,539.12
1980	2,578,947.90	60.00	42,981.98	27.60	1,186,233.46
1981	5,431,846.06	60.00	90,529.75	28.20	2,552,972.59
1982	7,283,876.56	60.00	121,396.58	28.81	3,497,766.35
1983	7,291,054.54	60.00	121,516.22	29.43	3,576,474.75
1984	4,174,117.66	60.00	69,567.85	30.06	2,091,093.42
1985	8,704,096.18	60.00	145,066.65	30.69	4,452,205.19
1986	7,805,333.97	60.00	130,087.44	31.33	4,075,861.64
1987	6,156,226.47	60.00	102,602.63	31.98	3,280,960.31
1988	5,219,670.28	60.00	86,993.53	32.63	2,838,812.23
1989	9,168,598.27	60.00	152,808.26	33.29	5,087,557.42
1990	5,246,270.54	60.00	87,436.86	33.96	2,969,451.96
1991	7,083,042.40	60.00	118,049.39	34.63	4,088,506.44
1992	7,124,247.68	60.00	118,736.13	35.31	4,193,067.46
1993	8,832,932.10	60.00	147,213.89	36.00	5,299,476.05

FE 2024 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	8,834,080.14	60.00	147,233.02	36.69	5,402,142.63
1995	6,427,880.67	60.00	107,130.15	37.39	4,005,496.19
1996	10,166,977.59	60.00	169,447.73	38.09	6,454,642.07
1997	4,240,437.55	60.00	70,673.17	38.80	2,742,117.46
1998	4,334,585.24	60.00	72,242.28	39.51	2,854,596.14
1999	4,158,881.91	60.00	69,313.92	40.23	2,788,620.66
2000	4,523,868.93	60.00	75,396.97	40.96	3,087,988.66
2001	3,336,993.41	60.00	55,615.93	41.69	2,318,379.27
2002	3,317,437.37	60.00	55,290.00	42.42	2,345,345.86
2003	3,717,027.41	60.00	61,949.76	43.16	2,673,520.08
2004	4,506,378.03	60.00	75,105.46	43.90	3,297,053.77
2005	7,299,010.15	60.00	121,648.81	44.64	5,430,944.09
2006	13,200,991.77	60.00	220,014.07	45.40	9,987,750.46
2007	6,550,508.58	60.00	109,173.92	46.15	5,038,514.01
2008	13,623,261.33	60.00	227,051.81	46.91	10,650,800.66
2009	8,357,539.71	60.00	139,290.77	47.67	6,640,371.35
2010	6,131,300.60	60.00	102,187.20	48.44	4,949,951.60
2011	6,490,262.23	60.00	108,169.83	49.21	5,323,025.87
2012	6,304,392.10	60.00	105,072.03	49.99	5,252,067.99
2013	7,977,591.12	60.00	132,958.36	50.76	6,749,577.98
2014	11,997,097.61	60.00	199,949.39	51.55	10,306,883.18
2015	4,439,260.14	60.00	73,986.84	52.33	3,871,999.09
2016	8,404,989.77	60.00	140,081.59	53.12	7,441,775.59
2017	7,230,060.57	60.00	120,499.66	53.92	6,497,109.73
2018	10,636,371.91	60.00	177,270.88	54.72	9,699,745.60
2019	19,608,000.16	60.00	326,796.34	55.52	18,143,633.74
2020	8,449,358.37	60.00	140,821.06	56.33	7,931,876.76

FE 2024 Study - West Penn Power
Electric Division
362.10 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	12,392,325.72	60.00	206,536.45	57.14	11,800,545.25
2022	12,164,201.17	60.00	202,734.42	57.95	11,748,373.52
2023	12,408,511.23	60.00	206,806.21	58.77	12,153,229.96
2024	22,607,280.11	60.00	376,783.78	59.59	22,451,915.20
Total	411,121,234.22	59.46	6,851,908.45	42.18	289,024,439.40

Composite Average Remaining Life ... *42.18 Years*

FE 2024 Study - West Penn Power
Electric Division
362.15 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	581,249.06	60.00	9,687.38	36.69	355,440.55
1995	91,040.41	60.00	1,517.32	37.39	56,731.30
1996	476,777.43	60.00	7,946.20	38.09	302,688.55
1997	3,302.66	60.00	55.04	38.80	2,135.70
1998	16,932,855.86	60.00	282,211.11	39.51	11,151,347.19
1999	5,771.17	60.00	96.19	40.23	3,869.69
2000	538,196.65	60.00	8,969.84	40.96	367,372.52
2001	4,333.99	60.00	72.23	41.69	3,011.04
2007	16,885.50	60.00	281.42	46.15	12,987.97
2013	51,334.66	60.00	855.57	50.76	43,432.57
2014	2,090.04	60.00	34.83	51.55	1,795.58
2015	0.86	60.00	0.01	52.33	0.75
2016	8,307.89	60.00	138.46	53.12	7,355.80
2017	425.11	60.00	7.09	53.92	382.01
2018	43,911.94	60.00	731.86	54.72	40,045.11
2019	188.51	60.00	3.14	55.52	174.43
2020	124,357.37	60.00	2,072.60	56.33	116,741.09
2021	363.28	60.00	6.05	57.14	345.93
2022	104.37	60.00	1.74	57.95	100.80
2023	15,559.07	60.00	259.31	58.77	15,238.97
Total	18,897,055.83	60.00	314,947.40	39.63	12,481,197.58

Composite Average Remaining Life ... 39.63 Years

FE 2024 Study - West Penn Power
Electric Division
362.40 Station Equipment - SCADA
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *35* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1931	121.03	0.00	0.00	0.00	0.00
1969	996.76	35.00	28.48	2.51	71.38
1972	1,452.75	35.00	41.51	3.15	130.93
1974	3,164.64	35.00	90.42	3.59	324.96
1975	2,131.44	35.00	60.90	3.82	232.65
1976	11,337.18	35.00	323.92	4.06	1,313.83
1977	12,902.83	35.00	368.65	4.29	1,581.49
1978	9,154.85	35.00	261.57	4.53	1,185.12
1979	1,613.17	35.00	46.09	4.78	220.31
1980	200.00	35.00	5.71	5.04	28.79
1981	200.00	35.00	5.71	5.31	30.34
1982	200.00	35.00	5.71	5.59	31.97
1983	9,501.56	35.00	271.47	5.90	1,600.72
1984	43,336.22	35.00	1,238.17	6.21	7,694.95
1985	24,442.88	35.00	698.37	6.55	4,576.93
1986	116,102.96	35.00	3,317.21	6.91	22,938.41
1987	80,564.37	35.00	2,301.83	7.30	16,802.27
1988	67,496.13	35.00	1,928.45	7.71	14,865.13
1989	124,314.43	35.00	3,551.83	8.14	28,918.48
1990	74,442.26	35.00	2,126.91	8.60	18,290.05
1991	100,676.66	35.00	2,876.46	9.08	26,127.25
1992	260,476.55	35.00	7,442.16	9.59	71,381.74
1993	499,026.15	35.00	14,257.84	10.12	144,346.58
1994	1,054,912.61	35.00	30,140.24	10.68	321,891.40
1995	199,784.16	35.00	5,708.10	11.26	64,261.57
1996	297,588.69	35.00	8,502.50	11.86	100,819.31
1997	1,064.14	35.00	30.40	12.48	379.33

FE 2024 Study - West Penn Power
Electric Division
362.40 Station Equipment - SCADA

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *35* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1999	16,618.73	35.00	474.82	13.78	6,540.73
2000	13,474.94	35.00	385.00	14.45	5,563.77
2002	397,801.90	35.00	11,365.73	15.85	180,188.03
2003	140,439.14	35.00	4,012.53	16.58	66,520.38
2004	453,549.74	35.00	12,958.51	17.32	224,394.98
2005	166,246.20	35.00	4,749.87	18.07	85,832.87
2006	225,999.95	35.00	6,457.12	18.84	121,642.42
2007	126,432.75	35.00	3,612.35	19.62	70,873.65
2008	191,326.89	35.00	5,466.46	20.41	111,592.80
2010	154,524.49	35.00	4,414.97	22.04	97,305.24
2014	819.98	35.00	23.43	25.43	595.74
2020	39.60	35.00	1.13	30.80	34.85
2021	11,334.00	35.00	323.83	31.72	10,272.72
2022	1,272.00	35.00	36.34	32.65	1,186.66
Total	4,897,084.73	34.15	139,912.71	13.10	1,832,590.75

Composite Average Remaining Life ... 13.10 Years

FE 2024 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1938	316.13	70.00	4.52	12.62	57.01
1939	1,032.09	70.00	14.74	12.97	191.27
1940	13,349.32	70.00	190.70	13.33	2,542.26
1941	21,906.12	70.00	312.94	13.69	4,285.59
1942	5,926.35	70.00	84.66	14.07	1,190.88
1943	19,799.12	70.00	282.84	14.44	4,085.56
1944	3,654.89	70.00	52.21	14.83	774.35
1945	9,799.29	70.00	139.99	15.22	2,131.26
1946	21,501.26	70.00	307.16	15.63	4,799.56
1947	49,742.40	70.00	710.60	16.03	11,394.30
1948	71,439.80	70.00	1,020.57	16.45	16,790.45
1949	142,814.30	70.00	2,040.20	16.88	34,432.76
1950	283,099.71	70.00	4,044.27	17.31	70,010.62
1951	236,447.19	70.00	3,377.81	17.75	59,964.99
1952	295,333.18	70.00	4,219.04	18.20	76,795.09
1953	475,584.49	70.00	6,794.05	18.66	126,788.39
1954	662,208.33	70.00	9,460.10	19.13	180,952.82
1955	549,217.58	70.00	7,845.95	19.60	153,816.59
1956	1,213,405.45	70.00	17,334.33	20.09	348,212.33
1957	277,037.58	70.00	3,957.67	20.58	81,454.76
1958	467,853.54	70.00	6,683.61	21.08	140,904.87
1959	525,418.34	70.00	7,505.96	21.59	162,057.75
1960	552,611.77	70.00	7,894.44	22.11	174,549.14
1961	427,791.38	70.00	6,111.29	22.64	138,334.80
1962	482,622.32	70.00	6,894.59	23.17	159,764.27
1963	555,781.76	70.00	7,939.72	23.72	188,290.59
1964	612,433.42	70.00	8,749.03	24.27	212,320.30

FE 2024 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1965	700,783.74	70.00	10,011.17	24.83	248,551.01
1966	662,046.69	70.00	9,457.79	25.39	240,172.58
1967	592,299.21	70.00	8,461.40	25.97	219,764.44
1968	789,913.95	70.00	11,284.46	26.56	299,668.94
1969	670,338.30	70.00	9,576.24	27.15	259,994.99
1970	825,821.49	70.00	11,797.42	27.75	327,373.24
1971	930,835.41	70.00	13,297.62	28.36	377,107.21
1972	947,317.77	70.00	13,533.08	28.97	392,113.86
1973	1,214,083.38	70.00	17,344.01	29.60	513,324.94
1974	1,084,159.40	70.00	15,487.96	30.23	468,201.28
1975	1,587,726.78	70.00	22,681.76	30.87	700,131.72
1976	1,553,533.74	70.00	22,193.29	31.52	699,430.17
1977	1,457,600.86	70.00	20,822.82	32.17	669,828.75
1978	2,162,060.89	70.00	30,886.52	32.83	1,013,999.45
1979	2,115,132.47	70.00	30,216.11	33.50	1,012,152.23
1980	3,251,857.95	70.00	46,455.01	34.17	1,587,391.19
1981	2,988,474.78	70.00	42,692.41	34.85	1,488,011.25
1982	2,802,123.68	70.00	40,030.25	35.54	1,422,744.07
1983	3,256,343.51	70.00	46,519.09	36.24	1,685,785.49
1984	3,609,522.22	70.00	51,564.49	36.94	1,904,779.76
1985	3,425,501.97	70.00	48,935.64	37.65	1,842,396.85
1986	3,437,731.15	70.00	49,110.34	38.36	1,884,065.13
1987	3,700,775.22	70.00	52,868.10	39.08	2,066,297.29
1988	3,936,979.44	70.00	56,242.44	39.81	2,239,210.17
1989	4,803,357.73	70.00	68,619.25	40.55	2,782,265.72
1990	6,269,270.61	70.00	89,560.82	41.29	3,697,774.04
1991	7,402,421.19	70.00	105,748.65	42.03	4,444,955.38

FE 2024 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1992	7,726,165.58	70.00	110,373.56	42.79	4,722,468.06
1993	6,023,919.58	70.00	86,055.81	43.54	3,747,188.16
1994	5,869,971.39	70.00	83,856.55	44.31	3,715,366.57
1995	11,069,782.54	70.00	158,139.41	45.08	7,128,497.09
1996	9,274,205.89	70.00	132,488.37	45.85	6,074,784.29
1997	15,231,296.24	70.00	217,589.48	46.63	10,146,923.58
1998	2,979,059.83	70.00	42,557.91	47.42	2,018,045.30
1999	14,306,335.35	70.00	204,375.78	48.21	9,853,206.54
2000	12,203,453.52	70.00	174,334.68	49.01	8,543,742.50
2001	4,914,351.86	70.00	70,204.88	49.81	3,496,818.77
2002	6,161,487.62	70.00	88,021.06	50.62	4,455,412.63
2003	4,975,422.68	70.00	71,077.31	51.43	3,655,449.99
2004	3,831,970.62	70.00	54,742.32	52.25	2,860,166.15
2005	5,733,107.95	70.00	81,901.37	53.07	4,346,481.00
2006	4,416,894.48	70.00	63,098.36	53.90	3,400,865.32
2007	6,760,735.64	70.00	96,581.73	54.73	5,285,888.77
2008	19,215,151.99	70.00	274,501.58	55.57	15,252,879.90
2009	1,770,968.01	70.00	25,299.49	56.41	1,427,110.05
2010	11,183,414.39	70.00	159,762.72	57.25	9,147,089.27
2011	18,173,926.35	70.00	259,626.96	58.11	15,085,877.90
2012	7,775,735.06	70.00	111,081.69	58.96	6,549,461.39
2013	6,314,380.29	70.00	90,205.24	59.82	5,396,176.90
2014	8,691,724.22	70.00	124,167.22	60.68	7,535,064.14
2015	6,897,924.88	70.00	98,541.57	61.55	6,065,456.55
2016	8,531,117.67	70.00	121,872.85	62.43	7,608,010.92
2017	12,092,155.99	70.00	172,744.72	63.30	10,935,042.59
2018	14,432,803.16	70.00	206,182.46	64.18	13,233,439.97

FE 2024 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2019	19,472,383.92	70.00	278,176.32	65.07	18,100,169.22
2020	17,423,690.28	70.00	248,909.33	65.96	16,417,126.99
2021	15,989,358.41	70.00	228,418.92	66.85	15,269,401.05
2022	20,705,143.78	70.00	295,787.14	67.74	20,037,662.17
2023	28,621,226.20	70.00	408,873.79	68.64	28,066,767.97
2024	41,611,460.56	70.00	594,448.17	69.55	41,341,957.03
Total	454,536,866.57	70.00	6,493,369.93	55.10	357,764,382.47

Composite Average Remaining Life ... 55.10 Years

FE 2024 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1912	377.17	70.00	5.39	4.73	25.49
1915	20,950.84	70.00	299.30	5.59	1,671.59
1920	306.04	70.00	4.37	7.04	30.76
1923	11,943.60	70.00	170.62	7.91	1,350.29
1924	17,578.98	70.00	251.13	8.21	2,062.40
1925	13,401.07	70.00	191.44	8.50	1,627.54
1926	5,899.65	70.00	84.28	8.80	741.82
1927	43,838.87	70.00	626.27	9.10	5,696.80
1928	22,021.61	70.00	314.59	9.40	2,957.21
1929	23,222.12	70.00	331.74	9.70	3,218.39
1930	40,755.57	70.00	582.22	10.01	5,828.00
1931	31,581.86	70.00	451.17	10.32	4,657.62
1932	24,130.84	70.00	344.73	10.63	3,665.75
1933	12,836.81	70.00	183.38	10.95	2,008.87
1934	12,067.46	70.00	172.39	11.28	1,943.76
1935	9,492.54	70.00	135.61	11.60	1,573.69
1936	20,854.40	70.00	297.92	11.94	3,556.20
1937	28,344.24	70.00	404.92	12.28	4,971.00
1938	578.59	70.00	8.27	12.62	104.34
1939	8,180.13	70.00	116.86	12.97	1,515.94
1940	7,082.97	70.00	101.19	13.33	1,348.89
1941	52,614.96	70.00	751.64	13.69	10,293.30
1942	7,934.56	70.00	113.35	14.07	1,594.42
1943	56,097.88	70.00	801.40	14.44	11,575.82
1944	56,682.57	70.00	809.75	14.83	12,009.17
1945	34,919.06	70.00	498.84	15.22	7,594.59
1946	20,866.12	70.00	298.09	15.63	4,657.79

FE 2024 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1947	33,095.90	70.00	472.80	16.03	7,581.15
1948	16,810.36	70.00	240.15	16.45	3,950.93
1949	97,177.99	70.00	1,388.25	16.88	23,429.77
1950	241,798.54	70.00	3,454.26	17.31	59,796.84
1951	76,849.02	70.00	1,097.84	17.75	19,489.56
1952	146,162.77	70.00	2,088.04	18.20	38,006.51
1953	59,499.62	70.00	849.99	18.66	15,862.29
1954	117,618.31	70.00	1,680.26	19.13	32,139.98
1955	24,886.25	70.00	355.52	19.60	6,969.77
1956	11,216,020.62	70.00	160,228.52	20.09	3,218,674.12
1957	353,887.10	70.00	5,055.52	20.58	104,050.10
1958	446,145.59	70.00	6,373.49	21.08	134,367.02
1959	334,184.80	70.00	4,774.06	21.59	103,074.51
1960	521,116.24	70.00	7,444.50	22.11	164,600.90
1961	277,473.12	70.00	3,963.89	22.64	89,726.42
1962	317,834.93	70.00	4,540.49	23.17	105,214.08
1963	166,040.48	70.00	2,372.00	23.72	56,252.04
1964	409,205.95	70.00	5,845.79	24.27	141,864.77
1965	349,656.04	70.00	4,995.08	24.83	124,014.53
1966	385,509.37	70.00	5,507.26	25.39	139,852.34
1967	259,917.02	70.00	3,713.09	25.97	96,438.62
1968	324,280.97	70.00	4,632.58	26.56	123,022.18
1969	197,439.20	70.00	2,820.55	27.15	76,578.05
1970	492,754.18	70.00	7,039.33	27.75	195,338.26
1971	198,147.29	70.00	2,830.67	28.36	80,274.96
1972	333,594.14	70.00	4,765.62	28.97	138,081.32
1973	305,987.00	70.00	4,371.23	29.60	129,373.95

FE 2024 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 *Survivor Curve:* R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1974	293,582.08	70.00	4,194.02	30.23	126,785.33
1975	354,362.90	70.00	5,062.32	30.87	156,261.59
1976	215,938.88	70.00	3,084.83	31.52	97,219.75
1977	281,710.43	70.00	4,024.43	32.17	129,457.76
1978	509,936.93	70.00	7,284.80	32.83	239,158.74
1979	932,002.34	70.00	13,314.29	33.50	445,990.15
1980	1,449,509.00	70.00	20,707.23	34.17	707,576.36
1981	455,851.64	70.00	6,512.15	34.85	226,976.11
1982	861,604.06	70.00	12,308.60	35.54	437,468.94
1983	1,287,122.90	70.00	18,387.43	36.24	666,334.22
1984	980,295.94	70.00	14,004.20	36.94	517,311.64
1985	919,324.06	70.00	13,133.17	37.65	494,455.93
1986	1,076,790.45	70.00	15,382.69	38.36	590,140.20
1987	962,017.34	70.00	13,743.08	39.08	537,134.44
1988	1,272,525.54	70.00	18,178.90	39.81	723,766.07
1989	1,165,266.71	70.00	16,646.63	40.55	674,961.52
1990	2,956,825.13	70.00	42,240.27	41.29	1,744,010.09
1991	2,982,994.46	70.00	42,614.12	42.03	1,791,208.17
1992	2,000,654.03	70.00	28,580.71	42.79	1,222,860.77
1993	1,449,334.31	70.00	20,704.73	43.54	901,560.57
1994	1,727,585.34	70.00	24,679.74	44.31	1,093,465.78
1995	3,471,207.54	70.00	49,588.57	45.08	2,235,318.79
1996	3,339,050.91	70.00	47,700.63	45.85	2,187,142.95
1997	1,913,168.33	70.00	27,330.92	46.63	1,274,531.89
1998	223,114.70	70.00	3,187.35	47.42	151,140.16
1999	40,868.66	70.00	583.84	48.21	28,147.48
2000	3,149.71	70.00	45.00	49.01	2,205.14

FE 2024 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	32,262.95	70.00	460.90	49.81	22,956.78
2002	33.46	70.00	0.48	50.62	24.20
2003	23,317.12	70.00	333.10	51.43	17,131.12
2004	240,254.80	70.00	3,432.20	52.25	179,325.13
2006	45,342.63	70.00	647.75	53.90	34,912.35
2007	178,149.77	70.00	2,544.99	54.73	139,286.60
2008	887,191.73	70.00	12,674.14	55.57	704,247.82
2009	809,118.73	70.00	11,558.81	56.41	652,017.12
2010	3,171,085.33	70.00	45,301.12	57.25	2,593,680.21
2011	1,678,238.40	70.00	23,974.78	58.11	1,393,078.14
2012	1,831,747.27	70.00	26,167.76	58.96	1,542,871.24
2013	51.86	70.00	0.74	59.82	44.32
2014	133,319.92	70.00	1,904.57	60.68	115,578.24
2015	96,563.30	70.00	1,379.47	61.55	84,909.67
2016	821,526.19	70.00	11,736.06	62.43	732,633.22
2017	913,954.12	70.00	13,056.46	63.30	826,496.72
2018	1,334,283.07	70.00	19,061.15	64.18	1,223,404.40
2019	3,520,318.47	70.00	50,290.16	65.07	3,272,242.39
2020	2,521,929.77	70.00	36,027.49	65.96	2,376,238.36
2021	1,320,477.34	70.00	18,863.92	66.85	1,261,019.83
2022	1,024,004.80	70.00	14,628.61	67.74	990,993.47
2023	1,664,101.41	70.00	23,772.83	68.64	1,631,863.98
Total	73,660,720.07	70.00	1,052,293.75	42.50	44,723,852.21

Composite Average Remaining Life ... 42.50 Years

FE 2024 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1923	587.70	60.00	9.79	6.06	59.40
1924	17,325.40	60.00	288.75	6.37	1,838.39
1925	26,317.88	60.00	438.62	6.68	2,927.91
1926	32,630.09	60.00	543.82	6.98	3,796.72
1927	56,336.30	60.00	938.92	7.30	6,852.45
1928	108,916.77	60.00	1,815.24	7.61	13,813.67
1929	121,376.35	60.00	2,022.90	7.93	16,035.26
1930	126,098.19	60.00	2,101.59	8.25	17,335.96
1931	130,173.72	60.00	2,169.52	8.58	18,608.07
1932	73,151.34	60.00	1,219.16	8.91	10,857.40
1933	58,775.69	60.00	979.58	9.24	9,053.74
1934	33,389.88	60.00	556.49	9.58	5,330.02
1935	46,554.93	60.00	775.90	9.92	7,695.82
1936	172,686.89	60.00	2,878.06	10.26	29,540.50
1937	9,854.49	60.00	164.24	10.61	1,743.39
1938	46,823.73	60.00	780.38	10.97	8,559.22
1939	260,361.47	60.00	4,339.27	11.33	49,154.90
1940	145,476.19	60.00	2,424.55	11.69	28,340.22
1941	290,004.11	60.00	4,833.31	12.05	58,264.21
1942	96,427.57	60.00	1,607.09	12.43	19,968.87
1943	42,185.44	60.00	703.08	12.80	9,000.30
1944	19,730.92	60.00	328.84	13.18	4,334.30
1945	44,041.72	60.00	734.01	13.57	9,957.32
1946	147,990.93	60.00	2,466.47	13.95	34,415.99
1947	304,967.88	60.00	5,082.70	14.35	72,919.05
1948	344,455.85	60.00	5,740.82	14.74	84,644.94
1949	470,638.09	60.00	7,843.81	15.15	118,812.49

FE 2024 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1950	592,195.08	60.00	9,869.72	15.55	153,518.96
1951	650,005.53	60.00	10,833.21	15.97	172,974.38
1952	528,559.16	60.00	8,809.14	16.38	144,328.94
1953	424,625.08	60.00	7,076.94	16.81	118,935.43
1954	632,561.48	60.00	10,542.48	17.23	181,680.49
1955	441,382.00	60.00	7,356.22	17.67	129,950.03
1956	463,011.13	60.00	7,716.70	18.10	139,693.18
1957	424,600.66	60.00	7,076.54	18.54	131,234.14
1958	708,131.41	60.00	11,801.96	18.99	224,153.57
1959	586,785.31	60.00	9,779.56	19.45	190,174.92
1960	640,690.05	60.00	10,677.96	19.90	212,541.43
1961	644,568.34	60.00	10,742.59	20.37	218,808.29
1962	656,146.16	60.00	10,935.55	20.84	227,873.74
1963	546,911.45	60.00	9,115.01	21.31	194,266.86
1964	614,050.55	60.00	10,233.97	21.79	223,028.28
1965	700,962.49	60.00	11,682.48	22.28	260,277.24
1966	754,653.75	60.00	12,577.31	22.77	286,399.45
1967	644,494.31	60.00	10,741.36	23.27	249,930.79
1968	973,574.12	60.00	16,225.91	23.77	385,715.41
1969	791,741.28	60.00	13,195.43	24.28	320,378.39
1970	1,023,008.55	60.00	17,049.80	24.79	422,746.51
1971	1,145,186.66	60.00	19,086.07	25.32	483,176.74
1972	1,193,895.94	60.00	19,897.87	25.84	514,203.10
1973	1,292,870.63	60.00	21,547.42	26.37	568,284.89
1974	1,105,600.78	60.00	18,426.31	26.91	495,890.41
1975	1,557,305.03	60.00	25,954.57	27.45	712,575.61
1976	1,465,962.04	60.00	24,432.22	28.01	684,226.30

FE 2024 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1977	1,406,518.13	60.00	23,441.50	28.56	669,512.01
1978	2,572,822.48	60.00	42,879.52	29.12	1,248,751.26
1979	2,290,845.37	60.00	38,180.00	29.69	1,133,513.14
1980	4,064,189.24	60.00	67,735.14	30.26	2,049,788.20
1981	3,595,270.39	60.00	59,919.98	30.84	1,847,868.19
1982	2,870,014.10	60.00	47,832.62	31.42	1,503,077.38
1983	2,932,683.79	60.00	48,877.09	32.01	1,564,735.30
1984	3,145,234.20	60.00	52,419.53	32.61	1,709,338.82
1985	3,494,752.30	60.00	58,244.71	33.21	1,934,224.73
1986	3,089,544.32	60.00	51,491.38	33.81	1,741,168.68
1987	2,974,207.46	60.00	49,569.14	34.42	1,706,390.37
1988	3,235,497.64	60.00	53,923.89	35.04	1,889,561.33
1989	4,167,676.31	60.00	69,459.89	35.66	2,477,128.44
1990	5,034,841.85	60.00	83,912.36	36.29	3,045,072.13
1991	5,289,400.94	60.00	88,154.93	36.92	3,254,567.23
1992	5,975,652.96	60.00	99,592.24	37.55	3,740,120.56
1993	4,105,224.36	60.00	68,419.05	38.19	2,613,117.85
1994	5,255,264.39	60.00	87,586.00	38.84	3,401,618.78
1995	7,098,178.84	60.00	118,300.63	39.49	4,671,207.47
1996	6,291,859.44	60.00	104,862.24	40.14	4,208,962.12
1997	8,191,875.91	60.00	136,528.55	40.79	5,569,449.76
1998	4,256,784.21	60.00	70,944.99	41.45	2,940,888.44
1999	11,306,315.44	60.00	188,434.85	42.11	7,935,932.29
2000	15,361,440.27	60.00	256,018.92	42.78	10,952,943.96
2001	4,207,060.55	60.00	70,116.28	43.45	3,046,650.93
2002	4,036,384.70	60.00	67,271.74	44.12	2,968,282.95
2003	2,159,534.47	60.00	35,991.53	44.80	1,612,364.29

FE 2024 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	977,034.98	60.00	16,283.59	45.48	740,521.85
2005	5,237,642.87	60.00	87,292.31	46.16	4,029,078.15
2006	1,136,773.10	60.00	18,945.84	46.84	887,415.71
2007	3,767,728.94	60.00	62,794.23	47.53	2,984,314.64
2008	10,173,382.41	60.00	169,553.00	48.21	8,174,553.08
2009	2,038,230.15	60.00	33,969.83	48.90	1,661,235.94
2010	10,368,307.05	60.00	172,801.68	49.60	8,570,380.44
2011	12,649,097.05	60.00	210,814.10	50.29	10,602,175.35
2012	18,218,833.94	60.00	303,641.20	50.99	15,482,889.16
2013	18,616,619.76	60.00	310,270.83	51.69	16,038,714.60
2014	11,493,628.32	60.00	191,556.67	52.40	10,037,060.54
2015	13,105,498.60	60.00	218,420.64	53.10	11,599,149.87
2016	25,141,064.29	60.00	419,009.41	53.82	22,549,385.63
2017	25,267,131.18	60.00	421,110.49	54.53	22,962,866.67
2018	30,444,732.76	60.00	507,402.13	55.25	28,032,731.33
2019	41,528,775.03	60.00	692,132.50	55.97	38,738,009.94
2020	32,107,415.11	60.00	535,112.95	56.69	30,337,642.31
2021	35,331,151.82	60.00	588,840.83	57.42	33,812,309.08
2022	31,511,912.52	60.00	525,188.11	58.15	30,541,931.17
2023	29,620,931.75	60.00	493,672.39	58.89	29,071,982.82
2024	37,193,984.38	60.00	619,887.42	59.63	36,963,646.18
Total	548,769,708.56	60.00	9,145,980.09	49.63	453,945,059.07

Composite Average Remaining Life ... 49.63 Years

FE 2024 Study - West Penn Power
Electric Division
365.15 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1915	14,533.55	60.00	242.22	3.69	893.40
1916	30,918.13	60.00	515.29	3.98	2,053.31
1917	13,367.34	60.00	222.78	4.28	953.78
1918	12,506.96	60.00	208.45	4.58	954.27
1919	25,756.10	60.00	429.26	4.88	2,094.35
1920	24,353.63	60.00	405.89	5.17	2,098.88
1921	92,081.88	60.00	1,534.67	5.48	8,402.63
1922	131,658.71	60.00	2,194.27	5.77	12,654.88
1923	86,926.09	60.00	1,448.74	6.06	8,786.00
1924	45,584.18	60.00	759.72	6.37	4,836.91
1925	65,248.53	60.00	1,087.45	6.68	7,259.01
1926	82,525.33	60.00	1,375.39	6.98	9,602.36
1927	101,723.18	60.00	1,695.35	7.30	12,373.08
1928	106,256.86	60.00	1,770.91	7.61	13,476.32
1929	85,478.82	60.00	1,424.62	7.93	11,292.77
1930	100,724.12	60.00	1,678.70	8.25	13,847.53
1931	125,124.49	60.00	2,085.37	8.58	17,886.29
1932	66,925.78	60.00	1,115.41	8.91	9,933.38
1933	40,517.62	60.00	675.28	9.24	6,241.28
1934	27,670.39	60.00	461.16	9.58	4,417.02
1935	47,953.76	60.00	799.21	9.92	7,927.05
1936	153,081.01	60.00	2,551.30	10.26	26,186.64
1937	58,835.45	60.00	980.57	10.61	10,408.75
1938	756.89	60.00	12.61	10.97	138.36
1939	4,401.70	60.00	73.36	11.33	831.02
1940	10,044.42	60.00	167.40	11.69	1,956.75
1941	41,966.89	60.00	699.43	12.05	8,431.49

FE 2024 Study - West Penn Power
Electric Division
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1942	1,731.79	60.00	28.86	12.43	358.63
1943	49,819.05	60.00	830.30	12.80	10,628.94
1944	15,442.63	60.00	257.37	13.18	3,392.29
1945	14,364.13	60.00	239.40	13.57	3,247.56
1946	15,131.57	60.00	252.19	13.95	3,518.92
1947	9,670.44	60.00	161.17	14.35	2,312.24
1948	28,737.28	60.00	478.95	14.74	7,061.76
1949	180,639.23	60.00	3,010.59	15.15	45,602.33
1950	219,067.96	60.00	3,651.06	15.55	56,790.55
1951	123,196.27	60.00	2,053.23	15.97	32,784.03
1952	143,150.97	60.00	2,385.80	16.38	39,088.96
1953	55,900.84	60.00	931.66	16.81	15,657.56
1954	205,972.43	60.00	3,432.81	17.23	59,158.16
1955	101,572.66	60.00	1,692.84	17.67	29,904.64
1956	77,913.83	60.00	1,298.54	18.10	23,507.06
1957	170,302.26	60.00	2,838.31	18.54	52,636.45
1958	200,074.90	60.00	3,334.52	18.99	63,332.18
1959	162,908.00	60.00	2,715.08	19.45	52,797.87
1960	340,287.99	60.00	5,671.35	19.90	112,886.56
1961	221,370.06	60.00	3,689.43	20.37	75,147.35
1962	490,137.02	60.00	8,168.79	20.84	170,220.24
1963	154,261.98	60.00	2,570.98	21.31	54,794.96
1964	328,299.21	60.00	5,471.54	21.79	119,241.01
1965	307,098.78	60.00	5,118.21	22.28	114,030.10
1966	316,704.66	60.00	5,278.31	22.77	120,192.93
1967	243,453.69	60.00	4,057.48	23.27	94,409.79
1968	414,625.07	60.00	6,910.28	23.77	164,268.21

FE 2024 Study - West Penn Power
Electric Division
365.15 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	154,559.84	60.00	2,575.95	24.28	62,542.69
1970	462,868.75	60.00	7,714.33	24.79	191,275.18
1971	260,650.54	60.00	4,344.09	25.32	109,973.58
1972	431,712.95	60.00	7,195.07	25.84	185,935.92
1973	429,602.13	60.00	7,159.89	26.37	188,832.81
1974	290,177.16	60.00	4,836.19	26.91	130,151.93
1975	476,678.37	60.00	7,944.48	27.45	218,113.58
1976	328,228.82	60.00	5,470.37	28.01	153,198.23
1977	304,992.88	60.00	5,083.11	28.56	145,178.64
1978	840,165.29	60.00	14,002.48	29.12	407,784.63
1979	1,085,857.38	60.00	18,097.26	29.69	537,283.59
1980	1,819,797.52	60.00	30,329.36	30.26	917,821.31
1981	1,085,574.45	60.00	18,092.55	30.84	557,954.83
1982	1,393,705.53	60.00	23,227.96	31.42	729,908.35
1983	952,308.08	60.00	15,871.49	32.01	508,104.58
1984	1,059,206.33	60.00	17,653.09	32.61	575,646.32
1985	918,371.76	60.00	15,305.89	33.21	508,287.06
1986	1,045,949.54	60.00	17,432.15	33.81	589,463.81
1987	1,332,946.33	60.00	22,215.33	34.42	764,750.55
1988	1,170,642.38	60.00	19,510.32	35.04	683,666.26
1989	931,690.40	60.00	15,527.86	35.66	553,765.84
1990	2,553,506.01	60.00	42,557.59	36.29	1,544,360.32
1991	1,766,425.29	60.00	29,439.84	36.92	1,086,881.09
1992	1,303,841.59	60.00	21,730.26	37.55	816,065.59
1993	596,810.48	60.00	9,946.64	38.19	379,890.59
1994	1,011,855.24	60.00	16,863.92	38.84	654,951.97
1995	2,130,135.46	60.00	35,501.55	39.49	1,401,810.93

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And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1996	2,045,749.93	60.00	34,095.15	40.14	1,368,511.81
1997	1,221,810.18	60.00	20,363.10	40.79	830,677.92
1998	143,690.39	60.00	2,394.79	41.45	99,271.51
1999	319,671.65	60.00	5,327.75	42.11	224,378.36
2000	5.41	60.00	0.09	42.78	3.86
2001	26,542.94	60.00	442.37	43.45	19,221.75
2002	7.86	60.00	0.13	44.12	5.78
2003	34,615.69	60.00	576.92	44.80	25,844.97
2004	446,749.41	60.00	7,445.68	45.48	338,603.74
2005	66,586.84	60.00	1,109.76	46.16	51,222.20
2006	102,019.19	60.00	1,700.29	46.84	79,640.72
2007	230,152.38	60.00	3,835.80	47.53	182,297.38
2008	1,495,777.61	60.00	24,929.13	48.21	1,201,892.64
2009	1,346,265.73	60.00	22,437.32	48.90	1,097,258.33
2010	1,179,350.43	60.00	19,655.45	49.60	974,843.99
2011	2,189,196.12	60.00	36,485.88	50.29	1,834,932.65
2012	8,532.49	60.00	142.21	50.99	7,251.16
2013	292,185.68	60.00	4,869.66	51.69	251,725.76
2014	86,727.28	60.00	1,445.43	52.40	75,736.48
2015	78,537.32	60.00	1,308.93	53.10	69,510.22
2016	1,606,721.09	60.00	26,778.15	53.82	1,441,091.48
2017	1,554,706.53	60.00	25,911.26	54.53	1,412,923.32
2018	2,282,045.41	60.00	38,033.33	55.25	2,101,249.05
2019	3,495,760.56	60.00	58,261.52	55.97	3,260,842.81
2020	1,855,854.51	60.00	30,930.29	56.69	1,753,559.11
2021	1,081,700.61	60.00	18,027.99	57.42	1,035,199.63
2022	893,210.82	60.00	14,886.55	58.15	865,716.52

FE 2024 Study - West Penn Power
Electric Division
365.15 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	1,077,151.09	60.00	17,952.16	58.89	1,057,188.82
Total	57,488,342.16	60.00	958,120.00	39.66	37,997,110.99

Composite Average Remaining Life ... 39.66 Years

FE 2024 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1906	500.66	0.00	0.00	0.00	0.00
1907	934.32	0.00	0.00	0.00	0.00
1908	657.41	0.00	0.00	0.00	0.00
1909	142.49	0.00	0.00	0.00	0.00
1910	2,621.95	0.00	0.00	0.00	0.00
1911	944.13	75.00	12.59	0.50	6.29
1912	60,590.54	75.00	807.87	0.62	500.25
1913	18,583.89	75.00	247.78	0.77	189.59
1914	18,552.90	75.00	247.37	0.84	208.34
1915	19,183.98	75.00	255.79	1.08	276.12
1916	14,768.73	75.00	196.92	1.30	255.49
1917	12,412.08	75.00	165.49	1.44	237.84
1918	10,283.93	75.00	137.12	1.67	229.21
1919	4,803.12	75.00	64.04	1.91	122.02
1921	33,584.69	75.00	447.79	2.32	1,041.11
1922	18,678.02	75.00	249.04	2.57	640.18
1923	82,133.46	75.00	1,095.11	2.78	3,042.18
1924	87,918.61	75.00	1,172.24	3.03	3,550.45
1925	80,130.02	75.00	1,068.40	3.29	3,510.03
1926	101,956.89	75.00	1,359.42	3.51	4,776.23
1927	66,515.56	75.00	886.87	3.77	3,346.38
1928	47,486.29	75.00	633.15	4.04	2,556.78
1929	65,963.40	75.00	879.51	4.28	3,764.79
1930	62,183.29	75.00	829.11	4.55	3,770.25
1931	46,805.28	75.00	624.07	4.82	3,007.28
1932	77,824.26	75.00	1,037.65	5.07	5,263.44
1933	23,002.21	75.00	306.69	5.35	1,639.69

FE 2024 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1934	16,807.55	75.00	224.10	5.63	1,260.63
1935	19,783.31	75.00	263.78	5.89	1,554.13
1936	60,259.95	75.00	803.46	6.18	4,962.61
1937	39,066.76	75.00	520.89	6.47	3,369.08
1938	124,191.44	75.00	1,655.88	6.75	11,183.20
1939	204,011.21	75.00	2,720.14	7.06	19,194.93
1940	136,312.52	75.00	1,817.49	7.37	13,392.91
1941	193,933.91	75.00	2,585.77	7.68	19,867.31
1942	79,839.48	75.00	1,064.52	8.01	8,532.00
1943	72,121.71	75.00	961.62	8.36	8,038.06
1944	46,877.41	75.00	625.03	8.71	5,446.21
1945	119,222.57	75.00	1,589.63	9.09	14,442.46
1946	138,951.68	75.00	1,852.68	9.47	17,550.68
1947	243,099.74	75.00	3,241.31	9.88	32,023.10
1948	338,231.59	75.00	4,509.73	10.30	46,466.66
1949	386,410.52	75.00	5,152.12	10.75	55,366.18
1950	491,824.46	75.00	6,557.63	11.21	73,540.79
1951	360,912.61	75.00	4,812.14	11.70	56,301.75
1952	283,271.84	75.00	3,776.94	12.21	46,100.12
1953	194,399.29	75.00	2,591.98	12.74	33,023.33
1954	225,927.72	75.00	3,012.35	13.29	40,037.76
1955	162,592.99	75.00	2,167.90	13.86	30,050.16
1956	140,940.25	75.00	1,879.19	14.46	27,172.43
1957	193,104.24	75.00	2,574.71	15.07	38,801.32
1958	191,362.16	75.00	2,551.48	15.70	40,049.65
1959	184,839.98	75.00	2,464.52	16.34	40,282.41
1960	194,055.22	75.00	2,587.39	17.00	43,988.28

FE 2024 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1961	220,024.36	75.00	2,933.64	17.67	51,830.58
1962	193,778.10	75.00	2,583.70	18.35	47,409.10
1963	163,989.95	75.00	2,186.52	19.04	41,622.60
1964	154,657.83	75.00	2,062.09	19.73	40,686.48
1965	214,921.74	75.00	2,865.61	20.44	58,570.90
1966	185,199.23	75.00	2,469.31	21.15	52,234.27
1967	153,984.58	75.00	2,053.12	21.88	44,914.53
1968	194,505.87	75.00	2,593.40	22.61	58,646.65
1969	190,623.20	75.00	2,541.63	23.36	59,365.91
1970	190,335.53	75.00	2,537.79	24.11	61,186.63
1971	185,835.68	75.00	2,477.80	24.88	61,642.16
1972	239,230.66	75.00	3,189.73	25.65	81,821.93
1973	227,194.48	75.00	3,029.24	26.43	80,077.58
1974	241,002.30	75.00	3,213.35	27.23	87,507.76
1975	331,156.19	75.00	4,415.39	28.04	123,792.50
1976	271,138.81	75.00	3,615.17	28.85	104,295.98
1977	272,052.15	75.00	3,627.34	29.68	107,646.98
1978	377,095.93	75.00	5,027.92	30.51	153,399.53
1979	335,648.96	75.00	4,475.30	31.35	140,305.45
1980	594,226.83	75.00	7,922.99	32.21	255,164.85
1981	388,379.44	75.00	5,178.37	33.07	171,227.32
1982	342,424.85	75.00	4,565.64	33.93	154,930.75
1983	288,455.13	75.00	3,846.05	34.81	133,896.39
1984	603,219.32	75.00	8,042.89	35.70	287,124.48
1985	710,973.58	75.00	9,479.60	36.59	346,873.05
1986	832,999.91	75.00	11,106.61	37.49	416,434.65
1987	871,872.75	75.00	11,624.91	38.40	446,417.11

FE 2024 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1988	844,840.60	75.00	11,264.49	39.32	442,869.05
1989	791,933.04	75.00	10,559.06	40.24	424,878.55
1990	903,098.59	75.00	12,041.26	41.17	495,680.55
1991	898,028.09	75.00	11,973.65	42.10	504,060.49
1992	912,958.13	75.00	12,172.72	43.04	523,882.15
1993	785,616.82	75.00	10,474.84	43.98	460,691.90
1994	1,042,305.41	75.00	13,897.34	44.93	624,390.00
1995	1,428,086.01	75.00	19,041.05	45.88	873,660.56
1996	1,072,761.37	75.00	14,303.42	46.84	669,973.52
1997	2,001,884.44	75.00	26,691.66	47.80	1,275,886.67
1998	661,792.44	75.00	8,823.86	48.77	430,311.63
1999	1,801,052.57	75.00	24,013.92	49.74	1,194,334.12
2000	2,588,341.81	75.00	34,511.06	50.71	1,749,926.56
2001	202,378.20	75.00	2,698.36	51.68	139,455.27
2002	791,174.27	75.00	10,548.94	52.66	555,490.66
2003	405,754.86	75.00	5,410.04	53.64	290,182.22
2004	17,305.56	75.00	230.74	54.62	12,603.02
2005	351,601.89	75.00	4,688.00	55.60	260,670.89
2006	114,495.68	75.00	1,526.60	56.59	86,389.35
2007	64,596.04	75.00	861.28	57.58	49,589.77
2008	22.02	75.00	0.29	58.57	17.19
2009	7,624.70	75.00	101.66	59.56	6,054.59
2011	15,272,032.93	75.00	203,626.11	61.54	12,531,189.48
2012	12,781,740.53	75.00	170,422.38	62.53	10,657,124.45
2013	42,061,103.09	75.00	560,811.97	63.53	35,627,355.48
2014	33,970,191.28	75.00	452,933.67	64.52	29,224,760.36
2015	29,761,027.62	75.00	396,811.77	65.52	25,998,713.13

FE 2024 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	23,191,042.35	75.00	309,212.39	66.52	20,567,429.52
2017	5,741,202.92	75.00	76,549.00	67.51	5,168,009.58
2018	43,678,133.32	75.00	582,372.27	68.51	39,898,189.16
2019	29,798,427.56	75.00	397,310.43	69.51	27,616,106.99
2020	24,406,379.49	75.00	325,416.81	70.51	22,943,749.04
2021	20,702,884.58	75.00	276,037.11	71.50	19,737,787.96
2022	1,265,721.75	75.00	16,876.21	72.50	1,223,572.77
2023	592,443.93	75.00	7,899.21	73.50	580,605.66
2024	5,332,730.05	75.00	71,102.72	74.50	5,297,205.51
Total	321,019,155.52	71.80	4,280,169.77	63.69	272,585,756.07

Composite Average Remaining Life ... ***63.69 Years***

FE 2024 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	176.71	75.00	2.36	3.51	8.28
1927	11,476.90	75.00	153.02	3.77	577.40
1928	879.44	75.00	11.73	4.04	47.35
1931	966.10	75.00	12.88	4.82	62.07
1932	4,882.53	75.00	65.10	5.07	330.22
1933	11,588.79	75.00	154.52	5.35	826.09
1934	184.66	75.00	2.46	5.63	13.85
1935	16.48	75.00	0.22	5.89	1.29
1936	4,522.32	75.00	60.30	6.18	372.43
1937	571.15	75.00	7.62	6.47	49.26
1938	56.99	75.00	0.76	6.75	5.13
1940	279.50	75.00	3.73	7.37	27.46
1941	26.62	75.00	0.35	7.68	2.73
1943	20,130.93	75.00	268.41	8.36	2,243.62
1944	210.97	75.00	2.81	8.71	24.51
1945	2,931.33	75.00	39.08	9.09	355.10
1946	90.51	75.00	1.21	9.47	11.43
1947	1,651.27	75.00	22.02	9.88	217.52
1948	398.37	75.00	5.31	10.30	54.73
1949	910.43	75.00	12.14	10.75	130.45
1950	15,549.47	75.00	207.33	11.21	2,325.06
1951	5,474.07	75.00	72.99	11.70	853.95
1952	5,666.27	75.00	75.55	12.21	922.14
1953	5,248.83	75.00	69.98	12.74	891.64
1954	4,874.38	75.00	64.99	13.29	863.81
1955	3,731.32	75.00	49.75	13.86	689.62
1956	3,494.07	75.00	46.59	14.46	673.64

FE 2024 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1957	5,725.26	75.00	76.34	15.07	1,150.40
1958	758.53	75.00	10.11	15.70	158.75
1959	1.46	75.00	0.02	16.34	0.32
1960	101,306.15	75.00	1,350.74	17.00	22,964.00
1961	7,545.39	75.00	100.60	17.67	1,777.45
1962	1,215.01	75.00	16.20	18.35	297.26
1963	21,522.58	75.00	286.97	19.04	5,462.69
1964	17,680.62	75.00	235.74	19.73	4,651.31
1965	6,556.56	75.00	87.42	20.44	1,786.81
1966	26,386.97	75.00	351.82	21.15	7,442.28
1967	9,982.31	75.00	133.10	21.88	2,911.66
1968	34,282.26	75.00	457.09	22.61	10,336.65
1969	908.87	75.00	12.12	23.36	283.05
1970	45,044.93	75.00	600.60	24.11	14,480.47
1971	2,854.85	75.00	38.06	24.88	946.96
1972	6,518.41	75.00	86.91	25.65	2,229.43
1973	3,377.60	75.00	45.03	26.43	1,190.48
1974	590.35	75.00	7.87	27.23	214.36
1975	3,725.78	75.00	49.68	28.04	1,392.77
1976	365.41	75.00	4.87	28.85	140.56
1978	1,567.27	75.00	20.90	30.51	637.55
1979	57,249.98	75.00	763.33	31.35	23,931.21
1980	31,521.69	75.00	420.29	32.21	13,535.62
1989	206,945.03	75.00	2,759.25	40.24	111,027.70
1990	387,918.52	75.00	5,172.22	41.17	212,915.47
1991	432,458.78	75.00	5,766.09	42.10	242,737.82
1992	155,406.46	75.00	2,072.08	43.04	89,176.79

FE 2024 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1993	196,252.86	75.00	2,616.69	43.98	115,084.22
1994	111,996.20	75.00	1,493.28	44.93	67,091.00
1995	994,725.81	75.00	13,262.95	45.88	608,543.68
1996	715,764.96	75.00	9,543.49	46.84	447,017.93
1997	624,235.79	75.00	8,323.10	47.80	397,852.20
1998	53,834.56	75.00	717.79	48.77	35,004.39
1999	13,275.99	75.00	177.01	49.74	8,803.72
2001	1,241.22	75.00	16.55	51.68	855.30
2004	32,512.02	75.00	433.49	54.62	23,677.34
2005	876.04	75.00	11.68	55.60	649.48
2011	2,534,623.05	75.00	33,794.81	61.54	2,079,738.95
2013	3,172,428.36	75.00	42,298.84	63.53	2,687,167.59
2014	1,852,815.14	75.00	24,704.08	64.52	1,593,988.04
2015	2,730,846.74	75.00	36,411.11	65.52	2,385,619.94
2016	433,784.18	75.00	5,783.76	66.52	384,709.98
2017	805,675.05	75.00	10,742.28	67.51	725,237.63
2018	3,071,604.64	75.00	40,954.53	68.51	2,805,785.27
2019	1,645,698.10	75.00	21,942.53	69.51	1,525,173.59
2020	1,850,167.93	75.00	24,668.79	70.51	1,739,290.69
2021	2,437,194.68	75.00	32,495.77	71.50	2,323,581.12
2022	5,166.66	75.00	68.89	72.50	4,994.61
2023	5.99	75.00	0.08	73.50	5.87
Total	24,960,133.41	75.00	332,800.16	62.34	20,746,233.10

Composite Average Remaining Life ... 62.34 Years

FE 2024 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1922	8.90	65.00	0.14	1.79	0.25
1925	66.58	65.00	1.02	2.49	2.55
1926	33.15	65.00	0.51	2.76	1.41
1927	118.73	65.00	1.83	2.99	5.46
1928	164.18	65.00	2.53	3.24	8.18
1929	135.01	65.00	2.08	3.50	7.27
1930	84.54	65.00	1.30	3.75	4.88
1931	84.54	65.00	1.30	4.02	5.22
1932	75.41	65.00	1.16	4.27	4.95
1933	5,976.36	65.00	91.94	4.53	416.68
1934	168.17	65.00	2.59	4.78	12.37
1935	100.86	65.00	1.55	5.05	7.83
1936	193.21	65.00	2.97	5.30	15.74
1937	328.84	65.00	5.06	5.56	28.14
1939	191.94	65.00	2.95	6.08	17.96
1941	662.40	65.00	10.19	6.60	67.26
1942	70.35	65.00	1.08	6.87	7.44
1943	176.53	65.00	2.72	7.15	19.41
1944	867.41	65.00	13.34	7.43	99.17
1945	2,804.03	65.00	43.14	7.72	332.87
1946	116.01	65.00	1.78	8.01	14.30
1947	72.03	65.00	1.11	8.32	9.22
1948	3,674.19	65.00	56.53	8.63	487.98
1949	2,904.47	65.00	44.68	8.95	400.13
1950	1,418.63	65.00	21.83	9.29	202.78
1954	622.51	65.00	9.58	10.75	102.96
1955	58.80	65.00	0.90	11.15	10.08

FE 2024 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1956	678.62	65.00	10.44	11.56	120.70
1957	91.14	65.00	1.40	11.99	16.81
1958	1,624.16	65.00	24.99	12.43	310.52
1959	976.33	65.00	15.02	12.88	193.48
1960	1,364.94	65.00	21.00	13.35	280.38
1961	1,653.27	65.00	25.43	13.83	351.88
1962	6,740.17	65.00	103.69	14.34	1,486.49
1963	13,097.42	65.00	201.50	14.85	2,991.61
1964	5,555.63	65.00	85.47	15.38	1,314.29
1965	235,958.31	65.00	3,630.13	15.92	57,780.51
1966	32,873.93	65.00	505.75	16.48	8,332.83
1967	24,371.47	65.00	374.95	17.05	6,391.92
1968	64,759.14	65.00	996.29	17.63	17,565.31
1969	58,491.24	65.00	899.87	18.23	16,404.09
1970	107,077.40	65.00	1,647.34	18.84	31,033.83
1971	30,448.37	65.00	468.44	19.46	9,117.48
1972	70,066.74	65.00	1,077.95	20.10	21,664.38
1973	161,967.38	65.00	2,491.81	20.75	51,698.59
1974	129,673.24	65.00	1,994.97	21.41	42,702.65
1975	147,751.32	65.00	2,273.10	22.08	50,185.78
1976	127,429.28	65.00	1,960.45	22.76	44,616.15
1977	91,279.51	65.00	1,404.30	23.45	32,935.22
1978	155,373.59	65.00	2,390.36	24.15	57,737.05
1979	265,808.27	65.00	4,089.36	24.87	101,701.67
1980	193,453.67	65.00	2,976.21	25.59	76,172.97
1981	118,927.72	65.00	1,829.66	26.33	48,167.37
1982	267,494.29	65.00	4,115.30	27.07	111,397.65

FE 2024 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1983	157,352.51	65.00	2,420.81	27.82	67,345.51
1984	283,397.56	65.00	4,359.96	28.58	124,611.85
1985	196,307.06	65.00	3,020.11	29.35	88,636.35
1986	461,238.82	65.00	7,095.98	30.13	213,785.62
1987	436,217.70	65.00	6,711.04	30.91	207,453.78
1988	547,012.37	65.00	8,415.58	31.71	266,841.65
1989	666,464.23	65.00	10,253.30	32.51	333,323.43
1990	557,903.98	65.00	8,583.14	33.32	285,997.61
1991	743,118.83	65.00	11,432.60	34.14	390,278.96
1992	897,453.24	65.00	13,806.97	34.96	482,760.77
1993	594,800.69	65.00	9,150.78	35.80	327,589.69
1994	657,146.55	65.00	10,109.95	36.64	370,422.08
1995	1,032,097.54	65.00	15,878.42	37.49	595,256.16
1996	953,416.29	65.00	14,667.94	38.34	562,412.94
1997	772,768.72	65.00	11,888.75	39.21	466,114.27
1998	467,739.06	65.00	7,195.99	40.07	288,377.65
1999	307,379.63	65.00	4,728.92	40.95	193,658.04
2000	1,131,481.31	65.00	17,407.40	41.83	728,214.16
2001	571,518.67	65.00	8,792.60	42.72	375,652.80
2002	863,903.03	65.00	13,290.82	43.62	579,720.17
2003	1,099,359.60	65.00	16,913.22	44.52	752,988.44
2004	716,162.61	65.00	11,017.89	45.43	500,509.13
2005	521,626.60	65.00	8,025.02	46.34	371,889.42
2006	466,759.58	65.00	7,180.92	47.26	339,371.96
2007	1,028,603.87	65.00	15,824.68	48.18	762,492.96
2008	353,903.70	65.00	5,444.67	49.11	267,406.11
2009	411,269.10	65.00	6,327.22	50.05	316,657.43

FE 2024 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	592,190.50	65.00	9,110.62	50.99	464,515.23
2011	696,571.04	65.00	10,716.48	51.93	556,493.89
2012	459,876.64	65.00	7,075.03	52.88	374,105.17
2013	101,578.35	65.00	1,562.74	53.83	84,119.24
2014	214,198.99	65.00	3,295.37	54.78	180,533.33
2015	144,979.96	65.00	2,230.46	55.74	124,331.52
2016	632,625.62	65.00	9,732.70	56.71	551,899.57
2017	99,218.15	65.00	1,526.43	57.67	88,030.90
2018	215,114.77	65.00	3,309.46	58.64	194,068.10
2019	302,363.75	65.00	4,651.75	59.61	277,301.99
2020	631,155.47	65.00	9,710.08	60.59	588,301.47
2021	332,360.73	65.00	5,113.24	61.56	314,790.51
2022	246,301.85	65.00	3,789.26	62.54	236,990.87
2023	740,222.25	65.00	11,388.03	63.52	723,417.86
Total	24,641,325.25	65.00	379,097.32	41.71	15,813,632.69

Composite Average Remaining Life ... 41.71 Years

FE 2024 Study - West Penn Power
Electric Division
366.50 Underground Conduit - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	339.99	65.00	5.23	54.78	286.55
2015	2,253.78	65.00	34.67	55.74	1,932.79
2017	863.00	65.00	13.28	57.67	765.69
2018	5,757.08	65.00	88.57	58.64	5,193.81
2019	1,821.40	65.00	28.02	59.61	1,670.43
Total	11,035.25	65.00	169.77	58.01	9,849.28

Composite Average Remaining Life ... 58.01 Years

FE 2024 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1941	140.55	55.00	2.56	4.72	12.07
1945	900.11	55.00	16.37	5.61	91.79
1946	97.46	55.00	1.77	5.83	10.33
1947	272.05	55.00	4.95	6.06	29.95
1948	31.21	55.00	0.57	6.29	3.57
1949	2,376.89	55.00	43.22	6.52	281.73
1950	8.47	55.00	0.15	6.76	1.04
1951	716.57	55.00	13.03	7.01	91.27
1953	9,361.14	55.00	170.20	7.50	1,276.44
1954	1,760.50	55.00	32.01	7.76	248.28
1955	19.37	55.00	0.35	8.02	2.82
1957	896.80	55.00	16.31	8.58	139.84
1958	1,763.96	55.00	32.07	8.87	284.35
1959	1,310.49	55.00	23.83	9.17	218.41
1960	1,383.76	55.00	25.16	9.48	238.48
1961	1,868.06	55.00	33.96	9.80	332.98
1962	7,996.70	55.00	145.39	10.14	1,474.67
1963	31,176.79	55.00	566.85	10.49	5,948.32
1964	28,673.13	55.00	521.33	10.86	5,661.28
1965	144,649.21	55.00	2,629.98	11.24	29,560.95
1966	128,085.31	55.00	2,328.82	11.64	27,097.88
1967	18,451.24	55.00	335.48	12.05	4,041.25
1968	102,373.76	55.00	1,861.34	12.47	23,217.53
1969	64,565.13	55.00	1,173.91	12.92	15,163.15
1970	139,957.96	55.00	2,544.68	13.38	34,037.56
1971	62,453.24	55.00	1,135.51	13.85	15,727.85
1972	193,909.48	55.00	3,525.62	14.34	50,562.82

FE 2024 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	163,590.52	55.00	2,974.37	14.85	44,157.29
1974	303,552.82	55.00	5,519.13	15.37	84,819.54
1975	444,549.92	55.00	8,082.71	15.91	128,560.52
1976	298,508.52	55.00	5,427.42	16.46	89,322.45
1977	183,428.37	55.00	3,335.05	17.02	56,775.90
1978	396,907.41	55.00	7,216.48	17.60	127,023.72
1979	522,533.43	55.00	9,500.59	18.20	172,880.82
1980	1,017,569.76	55.00	18,501.23	18.80	347,914.54
1981	615,785.22	55.00	11,196.07	19.43	217,492.23
1982	555,380.88	55.00	10,097.81	20.06	202,551.20
1983	479,991.22	55.00	8,727.10	20.70	180,686.07
1984	809,525.79	55.00	14,718.62	21.36	314,374.41
1985	904,898.97	55.00	16,452.67	22.03	362,418.32
1986	1,141,742.12	55.00	20,758.91	22.71	471,387.59
1987	1,146,521.98	55.00	20,845.81	23.40	487,751.57
1988	1,782,854.16	55.00	32,415.46	24.10	781,168.67
1989	1,409,751.12	55.00	25,631.79	24.81	635,852.55
1990	1,476,271.11	55.00	26,841.24	25.53	685,214.06
1991	1,880,788.25	55.00	34,196.08	26.26	897,956.70
1992	2,491,314.71	55.00	45,296.54	27.00	1,222,957.92
1993	1,916,889.47	55.00	34,852.46	27.75	967,080.18
1994	2,723,362.45	55.00	49,515.58	28.51	1,411,470.22
1995	3,390,286.05	55.00	61,641.44	29.27	1,804,281.70
1996	3,688,114.12	55.00	67,056.48	30.05	2,014,799.05
1997	5,300,971.68	55.00	96,381.11	30.83	2,971,457.54
1998	738,105.04	55.00	13,420.06	31.62	424,374.81
1999	6,395,422.67	55.00	116,280.17	32.42	3,770,095.51

FE 2024 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2000	10,408,459.77	55.00	189,244.34	33.23	6,288,379.78
2001	589,552.79	55.00	10,719.12	34.05	364,934.45
2002	3,279,282.68	55.00	59,623.20	34.87	2,078,997.46
2003	2,670,953.02	55.00	48,562.68	35.70	1,733,686.93
2004	1,763,522.37	55.00	32,063.98	36.54	1,171,559.03
2005	3,654,177.45	55.00	66,439.45	37.38	2,483,727.45
2006	3,157,739.68	55.00	57,413.33	38.23	2,195,155.33
2007	9,694,409.27	55.00	176,261.63	39.09	6,890,664.28
2008	10,442,981.49	55.00	189,872.00	39.96	7,587,079.33
2009	1,591,747.60	55.00	28,940.81	40.83	1,181,672.23
2010	5,503,234.45	55.00	100,058.60	41.71	4,173,287.37
2011	5,955,096.29	55.00	108,274.26	42.59	4,611,505.95
2012	5,648,112.92	55.00	102,692.75	43.48	4,465,154.55
2013	5,761,284.99	55.00	104,750.42	44.38	4,648,392.23
2014	6,689,947.36	55.00	121,635.16	45.28	5,507,186.14
2015	7,580,364.91	55.00	137,824.53	46.18	6,364,970.87
2016	8,187,842.84	55.00	148,869.57	47.09	7,010,560.34
2017	7,917,683.85	55.00	143,957.59	48.01	6,910,861.74
2018	12,098,670.17	55.00	219,975.37	48.93	10,762,513.72
2019	15,511,427.58	55.00	282,025.38	49.85	14,058,964.22
2020	14,652,016.62	55.00	266,399.76	50.78	13,527,264.72
2021	11,559,875.44	55.00	210,179.12	51.71	10,868,368.89
2022	12,563,388.79	55.00	228,424.78	52.65	12,025,437.75
2023	14,439,779.77	55.00	262,540.91	53.58	14,068,147.74
2024	13,767,202.15	55.00	250,312.25	54.53	13,648,894.28

FE 2024 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	238,212,571.35	55.00	4,331,128.80	42.88	185,717,948.52

Composite Average Remaining Life ... *42.88 Years*

FE 2024 Study - West Penn Power
Electric Division
367.50 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1974	257.39	55.00	4.68	15.37	71.92
1975	9,909.08	55.00	180.16	15.91	2,865.63
1976	12,061.36	55.00	219.30	16.46	3,609.11
1977	2,586.87	55.00	47.03	17.02	800.70
1978	8,508.96	55.00	154.71	17.60	2,723.15
1979	7,746.71	55.00	140.85	18.20	2,563.01
1980	24,424.68	55.00	444.08	18.80	8,350.98
1981	19,962.71	55.00	362.96	19.43	7,050.73
1982	35,025.80	55.00	636.83	20.06	12,774.15
1983	21,904.64	55.00	398.27	20.70	8,245.70
1984	13,639.11	55.00	247.98	21.36	5,296.67
1985	8,601.83	55.00	156.40	22.03	3,445.09
1986	42,722.03	55.00	776.76	22.71	17,638.51
1988	94,025.00	55.00	1,709.54	24.10	41,197.64
1989	120,896.67	55.00	2,198.12	24.81	54,529.10
1990	28,362.07	55.00	515.67	25.53	13,164.31
1991	41,887.31	55.00	761.59	26.26	19,998.52
1992	88,791.32	55.00	1,614.38	27.00	43,586.64
1993	40,153.51	55.00	730.06	27.75	20,257.64
1994	260,718.95	55.00	4,740.33	28.51	135,125.99
1995	285,807.01	55.00	5,196.48	29.27	152,104.09
1996	248,196.38	55.00	4,512.65	30.05	135,588.49
1997	299,852.64	55.00	5,451.86	30.83	168,082.28
1998	2,993,590.71	55.00	54,428.81	31.62	1,721,170.33
1999	33,399.18	55.00	607.26	32.42	19,688.78
2000	723,599.68	55.00	13,156.33	33.23	437,170.31
2001	173,097.38	55.00	3,147.22	34.05	107,147.65

FE 2024 Study - West Penn Power
Electric Division
367.50 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2002	265,286.68	55.00	4,823.38	34.87	168,186.27
2003	32,644.15	55.00	593.53	35.70	21,188.97
2004	107,692.66	55.00	1,958.04	36.54	71,543.36
2005	1,132,280.55	55.00	20,586.88	37.38	769,605.83
2006	73,813.31	55.00	1,342.06	38.23	51,312.55
2007	1,075,677.99	55.00	19,557.74	39.09	764,578.40
2008	1,804,950.50	55.00	32,817.21	39.96	1,311,340.31
2009	255,638.16	55.00	4,647.96	40.83	189,779.16
2010	646,839.42	55.00	11,760.69	41.71	490,520.04
2011	2,110,521.45	55.00	38,373.04	42.59	1,634,345.06
2013	6,667.18	55.00	121.22	44.38	5,379.30
2014	16,863.11	55.00	306.60	45.28	13,881.77
2015	12,278.66	55.00	223.25	46.18	10,309.97
2016	2,655.67	55.00	48.28	47.09	2,273.83
2017	8,235.16	55.00	149.73	48.01	7,187.97
2018	38,418.25	55.00	698.51	48.93	34,175.40
2019	13,549.11	55.00	246.35	49.85	12,280.39
2020	100,750.80	55.00	1,831.83	50.78	93,016.73
2023	275,565.94	55.00	5,010.28	53.58	268,473.79
Total	13,620,057.73	55.00	247,636.91	36.60	9,063,626.23

Composite Average Remaining Life ... 36.60 Years

FE 2024 Study - West Penn Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 48 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	6,778.27	48.00	141.21	0.50	70.61
1930	7,176.84	48.00	149.52	0.72	108.08
1931	2,299.07	48.00	47.90	1.02	49.05
1934	1,640.87	48.00	34.18	2.01	68.61
1936	1,305.29	48.00	27.19	2.66	72.32
1937	3,465.63	48.00	72.20	2.96	213.83
1938	1,413.14	48.00	29.44	3.24	95.25
1939	10,072.30	48.00	209.84	3.49	731.44
1940	22,833.86	48.00	475.70	3.72	1,769.90
1941	16,657.73	48.00	347.03	3.95	1,369.81
1942	5,279.42	48.00	109.99	4.17	458.79
1944	1,880.41	48.00	39.17	4.63	181.25
1945	16,467.92	48.00	343.08	4.86	1,668.04
1946	67,568.20	48.00	1,407.65	5.10	7,184.25
1947	145,351.67	48.00	3,028.12	5.34	16,184.75
1948	162,206.26	48.00	3,379.25	5.60	18,924.76
1949	103,982.58	48.00	2,166.28	5.86	12,698.21
1950	116,273.19	48.00	2,422.33	6.13	14,846.09
1951	123,622.19	48.00	2,575.43	6.40	16,485.68
1952	108,397.84	48.00	2,258.26	6.68	15,081.19
1953	134,776.10	48.00	2,807.80	6.96	19,541.92
1954	126,689.12	48.00	2,639.32	7.25	19,124.20
1955	351,505.69	48.00	7,322.94	7.54	55,186.92
1956	333,297.87	48.00	6,943.61	7.83	54,374.19
1957	241,028.06	48.00	5,021.35	8.13	40,823.48
1958	456,653.04	48.00	9,513.48	8.43	80,235.87
1959	338,568.20	48.00	7,053.41	8.74	61,647.31

FE 2024 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1960	338,556.71	48.00	7,053.17	9.05	63,865.24
1961	271,969.43	48.00	5,665.95	9.38	53,121.67
1962	234,031.04	48.00	4,875.58	9.70	47,306.94
1963	191,823.76	48.00	3,996.28	10.04	40,110.71
1964	256,795.68	48.00	5,349.84	10.38	55,524.07
1965	361,015.93	48.00	7,521.07	10.73	80,687.15
1966	261,442.64	48.00	5,446.65	11.09	60,381.62
1967	223,079.96	48.00	4,647.44	11.45	53,225.33
1968	318,424.43	48.00	6,633.75	11.83	78,466.53
1969	886,295.52	48.00	18,464.25	12.21	225,515.14
1970	1,481,163.84	48.00	30,857.17	12.61	389,067.44
1971	1,468,610.33	48.00	30,595.64	13.01	398,171.52
1972	1,465,523.96	48.00	30,531.35	13.43	410,024.86
1973	1,769,682.45	48.00	36,867.90	13.86	510,834.07
1974	2,545,341.78	48.00	53,027.25	14.29	757,898.66
1975	1,812,606.81	48.00	37,762.14	14.74	556,623.01
1976	3,057,135.14	48.00	63,689.47	15.20	967,998.21
1977	4,210,588.78	48.00	87,719.44	15.67	1,374,397.02
1978	4,851,931.95	48.00	101,080.58	16.15	1,632,292.20
1979	4,081,737.90	48.00	85,035.08	16.64	1,414,956.19
1980	4,172,842.77	48.00	86,933.07	17.14	1,490,191.57
1981	4,735,323.54	48.00	98,651.27	17.65	1,741,669.72
1982	4,764,185.73	48.00	99,252.56	18.18	1,804,269.77
1983	5,472,156.71	48.00	114,001.76	18.71	2,133,487.62
1984	5,225,897.51	48.00	108,871.42	19.26	2,096,831.36
1985	6,432,451.86	48.00	134,007.64	19.82	2,655,403.60
1986	6,114,532.04	48.00	127,384.40	20.38	2,596,248.51

FE 2024 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1987	7,241,623.19	48.00	150,865.15	20.96	3,161,717.46
1988	7,942,111.18	48.00	165,458.46	21.54	3,564,511.65
1989	9,528,671.34	48.00	198,511.36	22.14	4,394,850.04
1990	9,060,504.72	48.00	188,758.02	22.74	4,293,194.41
1991	7,501,708.67	48.00	156,283.53	23.36	3,650,666.76
1992	9,351,379.51	48.00	194,817.83	23.98	4,672,374.36
1993	7,054,420.75	48.00	146,965.16	24.62	3,617,746.82
1994	8,624,704.05	48.00	179,678.96	25.26	4,538,371.95
1995	9,228,743.74	48.00	192,262.95	25.91	4,981,576.79
1996	5,480,250.34	48.00	114,170.37	26.57	3,033,415.89
1997	13,070,426.70	48.00	272,296.95	27.24	7,416,364.87
1998	4,537,663.75	48.00	94,533.41	27.91	2,638,551.98
1999	8,082,201.18	48.00	168,376.96	28.59	4,814,569.14
2000	15,681,377.16	48.00	326,691.04	29.28	9,566,849.25
2001	7,413,009.16	48.00	154,435.65	29.98	4,630,194.20
2002	4,443,609.09	48.00	92,573.97	30.69	2,840,690.10
2003	4,952,587.50	48.00	103,177.54	31.40	3,239,422.93
2004	7,125,478.54	48.00	148,445.51	32.11	4,767,182.03
2005	7,773,295.16	48.00	161,941.51	32.84	5,317,784.14
2006	1,341,865.37	48.00	27,955.16	33.57	938,381.20
2007	8,452,613.89	48.00	176,093.79	34.30	6,040,718.68
2008	22,216,461.24	48.00	462,836.82	35.05	16,220,180.50
2009	1,904,913.68	48.00	39,685.18	35.79	1,420,398.97
2010	19,798,959.74	48.00	412,472.87	36.54	15,073,174.47
2011	24,427,878.80	48.00	508,907.41	37.30	18,982,385.58
2012	11,041,120.12	48.00	230,020.29	38.06	8,755,060.69
2013	9,913,260.33	48.00	206,523.53	38.83	8,019,090.72

FE 2024 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	9,273,977.95	48.00	193,205.32	39.60	7,651,072.21
2015	10,443,933.74	48.00	217,579.08	40.38	8,785,291.04
2016	11,720,244.42	48.00	244,168.53	41.16	10,049,758.66
2017	11,359,132.16	48.00	236,645.46	41.95	9,926,247.38
2018	14,058,780.86	48.00	292,887.39	42.74	12,517,152.65
2019	20,066,166.13	48.00	418,039.60	43.53	18,199,073.54
2020	16,261,315.84	48.00	338,772.93	44.34	15,019,695.82
2021	16,357,480.88	48.00	340,776.34	45.14	15,383,211.42
2022	19,756,469.35	48.00	411,587.67	45.95	18,913,500.17
2023	21,332,626.99	48.00	444,423.85	46.77	20,784,906.13
2024	22,680,148.06	48.00	472,496.84	47.59	22,485,482.99
Total	496,413,454.24	48.00	10,341,810.19	33.30	344,432,583.12

Composite Average Remaining Life ... *33.30 Years*

FE 2024 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1944	32.52	55.00	0.59	5.38	3.18
1948	53.94	55.00	0.98	6.29	6.16
1949	158.16	55.00	2.88	6.52	18.75
1952	29.72	55.00	0.54	7.25	3.92
1954	95,665.13	55.00	1,739.36	7.76	13,491.44
1955	132,301.88	55.00	2,405.48	8.02	19,294.26
1956	212,697.93	55.00	3,867.23	8.30	32,088.22
1957	230,430.60	55.00	4,189.64	8.58	35,932.41
1958	181,320.68	55.00	3,296.73	8.87	29,228.60
1959	191,738.41	55.00	3,486.15	9.17	31,955.78
1960	215,429.92	55.00	3,916.90	9.48	37,127.98
1961	253,652.89	55.00	4,611.86	9.80	45,213.93
1962	237,857.11	55.00	4,324.67	10.14	43,863.32
1963	217,427.24	55.00	3,953.21	10.49	41,483.67
1964	236,526.39	55.00	4,300.47	10.86	46,700.27
1965	246,603.74	55.00	4,483.70	11.24	50,396.68
1966	254,979.77	55.00	4,635.99	11.64	53,943.83
1967	217,178.36	55.00	3,948.69	12.05	47,567.06
1968	317,364.35	55.00	5,770.25	12.47	71,975.62
1969	336,846.38	55.00	6,124.47	12.92	79,108.53
1970	343,277.39	55.00	6,241.39	13.38	83,484.54
1971	393,076.05	55.00	7,146.82	13.85	98,989.94
1972	654,267.38	55.00	11,895.75	14.34	170,603.33
1973	797,516.23	55.00	14,500.27	14.85	215,270.16
1974	771,261.18	55.00	14,022.90	15.37	215,507.85
1975	1,310,624.69	55.00	23,829.49	15.91	379,022.88
1976	1,079,708.68	55.00	19,631.03	16.46	323,080.32

FE 2024 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1977	1,367,275.79	55.00	24,859.51	17.02	423,207.80
1978	1,518,191.17	55.00	27,603.42	17.60	485,872.25
1979	1,518,324.44	55.00	27,605.84	18.20	502,339.49
1980	1,331,733.13	55.00	24,213.28	18.80	455,329.29
1981	1,397,583.70	55.00	25,410.56	19.43	493,619.51
1982	1,321,465.94	55.00	24,026.60	20.06	481,947.66
1983	1,483,493.88	55.00	26,972.56	20.70	558,440.80
1984	1,744,601.68	55.00	31,719.97	21.36	677,505.44
1985	1,787,666.46	55.00	32,502.96	22.03	715,972.83
1986	2,135,890.11	55.00	38,834.29	22.71	881,838.43
1987	2,137,386.46	55.00	38,861.49	23.40	909,283.56
1988	2,308,652.82	55.00	41,975.42	24.10	1,011,550.63
1989	2,532,478.44	55.00	46,044.97	24.81	1,142,246.22
1990	2,952,831.57	55.00	53,687.74	25.53	1,370,562.42
1991	2,517,602.24	55.00	45,774.49	26.26	1,201,994.86
1992	2,390,603.31	55.00	43,465.43	27.00	1,173,519.84
1993	2,689,879.27	55.00	48,906.80	27.75	1,357,057.34
1994	2,849,159.42	55.00	51,802.79	28.51	1,476,668.55
1995	3,240,099.43	55.00	58,910.78	29.27	1,724,353.65
1996	3,376,482.19	55.00	61,390.46	30.05	1,844,556.02
1997	5,325,451.08	55.00	96,826.19	30.83	2,985,179.46
1998	1,616,551.69	55.00	29,391.79	31.62	929,439.28
1999	4,539,859.37	55.00	82,542.73	32.42	2,676,242.73
2000	5,020,298.16	55.00	91,277.96	33.23	3,033,065.61
2001	37.53	55.00	0.68	34.05	23.23
2002	2,021,772.83	55.00	36,759.43	34.87	1,281,762.20
2003	2,363,924.61	55.00	42,980.36	35.70	1,534,398.09

FE 2024 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	2,098,767.79	55.00	38,159.34	36.54	1,394,272.28
2005	4,283,581.71	55.00	77,883.14	37.38	2,911,530.61
2006	538,665.89	55.00	9,793.91	38.23	374,462.56
2007	781,715.31	55.00	14,212.98	39.09	555,633.42
2008	5,180,738.68	55.00	94,195.06	39.96	3,763,932.30
2010	1,650,421.81	55.00	30,007.61	41.71	1,251,570.25
2011	2,329,900.47	55.00	42,361.74	42.59	1,804,227.73
2012	2,967,188.83	55.00	53,948.78	43.48	2,345,731.56
2013	3,183,407.42	55.00	57,880.02	44.38	2,568,476.71
2014	4,026,427.03	55.00	73,207.61	45.28	3,314,567.65
2015	4,131,947.73	55.00	75,126.17	46.18	3,469,453.94
2016	4,592,802.11	55.00	83,505.32	47.09	3,932,429.69
2017	3,651,285.91	55.00	66,386.88	48.01	3,186,984.04
2018	4,330,329.77	55.00	78,733.11	48.93	3,852,095.55
2019	5,083,531.40	55.00	92,427.65	49.85	4,607,518.28
2020	4,037,331.96	55.00	73,405.89	50.78	3,727,408.97
2021	4,261,394.85	55.00	77,479.75	51.71	4,006,480.13
2022	4,312,609.15	55.00	78,410.92	52.65	4,127,947.78
2023	4,055,752.07	55.00	73,740.80	53.58	3,951,370.47
2024	5,305,907.18	55.00	96,470.84	54.53	5,260,311.09
Total	143,221,030.51	55.00	2,604,013.41	36.06	93,899,744.86

Composite Average Remaining Life ... 36.06 Years

FE 2024 Study - West Penn Power
Electric Division
370.30 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	116,882.78	15.00	7,792.19	5.43	42,302.58
2014	361,347.13	15.00	24,089.81	5.99	144,364.18
2015	3,152,252.08	15.00	210,150.15	6.61	1,389,224.94
2016	24,513,226.87	15.00	1,634,215.19	7.29	11,906,552.21
2017	23,679,934.92	15.00	1,578,662.39	8.02	12,664,715.86
2018	70,650,881.79	15.00	4,710,058.97	8.82	41,541,006.75
2019	42,170,501.06	15.00	2,811,366.84	9.67	27,197,871.54
2020	11,093,009.64	15.00	739,534.00	10.58	7,825,284.18
2021	9,032,348.71	15.00	602,156.60	11.53	6,942,809.98
2022	5,090,937.96	15.00	339,395.88	12.51	4,244,897.58
2023	5,777,902.58	15.00	385,193.52	13.50	5,200,416.18
2024	9,535,115.80	15.00	635,674.41	14.50	9,217,282.13
Total	205,174,341.32	15.00	13,678,289.94	9.38	128,316,728.09

Composite Average Remaining Life ... 9.38 Years

FE 2024 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 32 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1960	5,548.96	0.00	0.00	0.00	0.00
1961	69,689.85	32.00	2,177.76	0.50	1,088.88
1962	31,849.08	32.00	995.26	0.69	691.49
1963	16,197.65	32.00	506.17	0.99	502.16
1964	21,181.21	32.00	661.90	1.31	868.95
1965	16,335.55	32.00	510.47	1.64	837.85
1966	4,620.55	32.00	144.39	1.95	281.76
1967	206.35	32.00	6.45	2.22	14.33
1970	17,472.59	32.00	546.01	2.90	1,584.70
1971	5,077.01	32.00	158.65	3.13	496.88
1972	3,747.10	32.00	117.09	3.37	394.61
1973	39,718.16	32.00	1,241.16	3.62	4,490.51
1974	41,208.27	32.00	1,287.73	3.88	4,990.49
1975	55,543.03	32.00	1,735.68	4.14	7,188.32
1976	44,808.08	32.00	1,400.22	4.42	6,182.43
1977	16,202.99	32.00	506.33	4.69	2,376.25
1978	37,386.15	32.00	1,168.29	4.98	5,818.98
1979	56,606.28	32.00	1,768.91	5.28	9,331.10
1980	56,079.43	32.00	1,752.44	5.58	9,772.19
1981	47,762.90	32.00	1,492.56	5.89	8,783.97
1982	34,005.31	32.00	1,062.64	6.20	6,591.07
1983	40,790.35	32.00	1,274.67	6.53	8,322.79
1984	42,253.53	32.00	1,320.39	6.87	9,066.87
1985	36,090.40	32.00	1,127.80	7.22	8,137.22
1986	3,875.57	32.00	121.11	7.58	917.65
1987	2,863.84	32.00	89.49	7.95	711.71
1988	1,302.81	32.00	40.71	8.34	339.65

FE 2024 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 32 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1989	1,289.81	32.00	40.31	8.75	352.58
1990	94.70	32.00	2.96	9.17	27.13
1991	618.01	32.00	19.31	9.60	185.49
1992	3,006.29	32.00	93.94	10.06	944.85
1993	8,426.48	32.00	263.32	10.53	2,772.09
1994	7,766.68	32.00	242.70	11.01	2,672.92
1995	5,013.26	32.00	156.66	11.52	1,803.98
1996	119,841.18	32.00	3,744.95	12.03	45,064.98
1997	411,534.78	32.00	12,860.17	12.57	161,625.42
1998	1,218,195.16	32.00	38,067.74	13.12	499,375.91
1999	17,569.86	32.00	549.05	13.68	7,513.01
2000	1,118,951.35	32.00	34,966.44	14.26	498,782.20
2001	224,728.37	32.00	7,022.60	14.86	104,365.07
2002	51,953.69	32.00	1,623.52	15.47	25,118.13
2003	60,192.77	32.00	1,880.98	16.10	30,275.30
2004	11,843.77	32.00	370.11	16.73	6,193.02
2005	45,933.53	32.00	1,435.39	17.38	24,951.96
2006	11,555.57	32.00	361.10	18.05	6,516.58
2007	32,826.57	32.00	1,025.81	18.72	19,204.30
2008	567,105.08	32.00	17,721.63	19.41	343,931.57
2009	2,061.04	32.00	64.41	20.11	1,294.92
2011	2,587,067.61	32.00	80,844.04	21.53	1,740,623.69
2012	302,871.14	32.00	9,464.51	22.26	210,654.86
2013	276,027.39	32.00	8,625.66	22.99	198,328.19
2014	484,849.97	32.00	15,151.22	23.74	359,638.00
2015	309,543.48	32.00	9,673.02	24.49	236,875.06
2016	163,946.46	32.00	5,123.21	25.25	129,348.25

FE 2024 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *32* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2017	194,569.20	32.00	6,080.15	26.01	158,174.73
2018	170,063.55	32.00	5,314.37	26.79	142,367.80
2019	209,419.62	32.00	6,544.22	27.57	180,430.02
2020	148,353.69	32.00	4,635.95	28.36	131,475.22
2021	141,001.08	32.00	4,406.18	29.16	128,467.90
2022	180,897.53	32.00	5,652.92	29.96	169,360.69
2023	149,783.82	32.00	4,680.64	30.77	144,026.35
Total	9,987,325.49	31.48	311,923.49	18.63	5,812,525.00

Composite Average Remaining Life ... 18.63 Years

FE 2024 Study - West Penn Power
Electric Division
372.00 Leased Property

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	296,546.83	30.00	9,884.66	10.37	102,518.62
2018	71.80	30.00	2.39	24.80	59.35
Total	296,618.63	30.00	9,887.05	10.37	102,577.98

Composite Average Remaining Life ... *10.37 Years*

FE 2024 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 *Survivor Curve:* L0

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1922	22.51	0.00	0.00	0.00	0.00
1923	1.17	0.00	0.00	0.00	0.00
1924	51.68	0.00	0.00	0.00	0.00
1925	66.79	0.00	0.00	0.00	0.00
1926	16.76	25.00	0.67	0.50	0.34
1927	35.05	25.00	1.40	0.83	1.17
1928	894.27	25.00	35.77	1.13	40.48
1929	84.93	25.00	3.40	1.41	4.80
1930	3,684.91	25.00	147.40	1.62	238.89
1931	77.13	25.00	3.09	1.79	5.54
1933	1,185.96	25.00	47.44	2.12	100.42
1935	151.10	25.00	6.04	2.40	14.51
1936	269.85	25.00	10.79	2.54	27.37
1937	8.12	25.00	0.32	2.67	0.87
1938	343.56	25.00	13.74	2.80	38.44
1939	192.55	25.00	7.70	2.93	22.54
1940	102.76	25.00	4.11	3.06	12.56
1941	163.26	25.00	6.53	3.19	20.81
1942	856.39	25.00	34.26	3.32	113.61
1943	122.12	25.00	4.88	3.45	16.84
1944	365.27	25.00	14.61	3.58	52.30
1945	1,068.47	25.00	42.74	3.71	158.69
1946	6.30	25.00	0.25	3.85	0.97
1947	16.72	25.00	0.67	3.98	2.66
1948	126.46	25.00	5.06	4.12	20.84
1949	2,102.79	25.00	84.11	4.26	358.13
1950	1,136.66	25.00	45.47	4.40	199.94

FE 2024 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 **Survivor Curve:** L0

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1951	3,438.98	25.00	137.56	4.54	624.33
1952	4,132.36	25.00	165.30	4.68	773.78
1953	517.75	25.00	20.71	4.83	99.93
1954	2,991.01	25.00	119.64	4.97	594.77
1955	864.52	25.00	34.58	5.12	177.01
1956	319.24	25.00	12.77	5.27	67.27
1957	15.86	25.00	0.63	5.42	3.44
1958	3,199.77	25.00	127.99	5.57	713.17
1960	4,310.65	25.00	172.43	5.88	1,014.45
1961	2,737.67	25.00	109.51	6.04	661.64
1962	2,996.13	25.00	119.85	6.20	743.36
1963	7,713.18	25.00	308.53	6.37	1,963.90
1964	3,672.50	25.00	146.90	6.53	959.30
1965	11,724.74	25.00	468.99	6.70	3,140.97
1966	67,319.18	25.00	2,692.80	6.87	18,490.18
1967	87,989.86	25.00	3,519.63	7.04	24,771.68
1968	146,233.53	25.00	5,849.40	7.21	42,186.63
1969	128,660.49	25.00	5,146.47	7.39	38,024.85
1970	181,212.87	25.00	7,248.59	7.57	54,853.20
1971	94,317.28	25.00	3,772.73	7.75	29,234.48
1972	165,053.74	25.00	6,602.22	7.93	52,375.32
1973	171,967.18	25.00	6,878.76	8.12	55,854.03
1974	126,049.36	25.00	5,042.03	8.31	41,895.94
1975	210,696.82	25.00	8,427.96	8.50	71,652.57
1976	139,973.71	25.00	5,599.01	8.70	48,695.20
1977	137,311.15	25.00	5,492.50	8.90	48,858.40
1978	118,490.33	25.00	4,739.66	9.10	43,116.30

FE 2024 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 **Survivor Curve:** L0

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1979	163,465.50	25.00	6,538.69	9.30	60,819.84
1980	207,610.82	25.00	8,304.52	9.51	78,971.09
1981	143,900.38	25.00	5,756.08	9.72	55,952.74
1982	98,527.94	25.00	3,941.16	9.94	39,156.63
1983	147,345.10	25.00	5,893.87	10.15	59,843.46
1984	126,614.51	25.00	5,064.63	10.38	52,547.35
1985	145,866.14	25.00	5,834.71	10.60	61,853.30
1986	148,750.28	25.00	5,950.07	10.83	64,441.32
1987	138,286.86	25.00	5,531.53	11.06	61,199.18
1988	251,502.08	25.00	10,060.19	11.30	113,691.27
1989	310,860.92	25.00	12,434.57	11.54	143,528.26
1990	392,410.47	25.00	15,696.59	11.79	185,039.85
1991	162,079.21	25.00	6,483.24	12.04	78,050.40
1992	197,869.56	25.00	7,914.87	12.29	97,302.06
1993	204,688.76	25.00	8,187.64	12.55	102,779.51
1994	237,747.75	25.00	9,510.01	12.82	121,891.89
1995	330,187.16	25.00	13,207.63	13.09	172,839.37
1996	380,054.03	25.00	15,202.32	13.36	203,110.43
1997	499,721.22	25.00	19,989.06	13.64	272,647.38
1998	656,431.02	25.00	26,257.52	13.92	365,622.78
1999	10,215.05	25.00	408.61	14.21	5,808.19
2000	1,085,439.17	25.00	43,418.03	14.51	630,012.78
2001	72,205.16	25.00	2,888.24	14.81	42,780.36
2002	2,578.03	25.00	103.12	15.12	1,559.15
2003	1,096.29	25.00	43.85	15.43	676.77
2004	5,065.86	25.00	202.64	15.75	3,192.08
2005	78,768.04	25.00	3,150.75	16.08	50,660.93

FE 2024 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	26,150.09	25.00	1,046.01	16.41	17,166.98
2007	156,979.31	25.00	6,279.24	16.75	105,185.92
2008	993,753.40	25.00	39,750.56	17.10	679,651.06
2009	13,893.96	25.00	555.76	17.45	9,698.95
2010	685,119.86	25.00	27,405.08	17.81	488,152.74
2011	3,161,700.27	25.00	126,469.35	18.18	2,299,329.83
2012	513,163.68	25.00	20,526.76	18.56	380,915.83
2013	707,525.76	25.00	28,301.33	18.94	536,062.99
2014	666,504.97	25.00	26,660.48	19.34	515,497.30
2015	998,702.31	25.00	39,948.52	19.74	788,690.62
2016	1,627,560.81	25.00	65,103.12	20.16	1,312,799.02
2017	904,227.66	25.00	36,169.49	20.60	745,271.94
2018	831,782.97	25.00	33,271.67	21.07	700,895.30
2019	1,006,456.26	25.00	40,258.68	21.55	867,609.91
2020	986,142.21	25.00	39,446.11	22.06	870,356.38
2021	788,021.88	25.00	31,521.21	22.61	712,765.71
2022	940,154.22	25.00	37,606.57	23.20	872,569.27
2023	929,729.10	25.00	37,189.56	23.85	886,925.21
2024	1,619,563.53	25.00	64,783.23	24.58	1,592,248.37
Total	25,593,482.96	24.00	1,023,744.47	17.67	18,090,770.50

Composite Average Remaining Life ... 17.67 Years

FE 2024 Study - West Penn Power
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2024
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	97,870.09	20.00	4,893.41	12.06	59,037.86
2016	4,529,610.72	20.00	226,476.04	12.82	2,904,520.10
2017	6,405,962.85	20.00	320,291.79	13.61	4,357,871.99
2018	3,083,877.06	20.00	154,190.79	14.40	2,221,089.82
2019	1,124,340.07	20.00	56,215.89	15.22	855,732.72
2020	1,127,921.24	20.00	56,394.94	16.06	905,522.72
2021	1,252,266.93	20.00	62,612.10	16.91	1,058,645.52
2022	1,769,336.93	20.00	88,465.09	17.77	1,572,349.34
2023	1,867,553.81	20.00	93,375.84	18.65	1,741,887.53
2024	2,429,345.29	20.00	121,464.86	19.55	2,374,431.35
Total	23,688,084.99	20.00	1,184,380.76	15.24	18,051,088.94

Composite Average Remaining Life ... 15.24 Years

FE 2025 Study - Metropolitan Edison
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *80* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1926	618.12	80.00	7.73	5.19	40.07
1938	260,448.93	80.00	3,255.60	8.72	28,378.26
1939	16,059.98	80.00	200.75	9.07	1,819.99
1940	8,595.66	80.00	107.45	9.43	1,013.05
1941	14,690.00	80.00	183.62	9.81	1,800.44
1942	5,425.39	80.00	67.82	10.20	691.57
1943	2,530.64	80.00	31.63	10.61	335.52
1944	8,822.26	80.00	110.28	11.03	1,216.69
1945	23,756.40	80.00	296.95	11.48	3,408.13
1946	35,420.45	80.00	442.75	11.95	5,289.07
1947	38,497.06	80.00	481.21	12.43	5,981.67
1948	49,785.96	80.00	622.32	12.93	8,049.48
1949	62,555.36	80.00	781.94	13.46	10,523.63
1950	35,672.13	80.00	445.90	14.01	6,247.41
1951	79,710.23	80.00	996.37	14.58	14,523.73
1952	47,030.63	80.00	587.88	15.16	8,912.72
1953	51,763.45	80.00	647.04	15.76	10,198.89
1954	83,959.01	80.00	1,049.48	16.39	17,199.66
1955	64,444.39	80.00	805.55	17.02	13,713.52
1956	88,012.03	80.00	1,100.14	17.67	19,441.40
1957	92,106.57	80.00	1,151.33	18.33	21,104.86
1958	133,360.41	80.00	1,667.00	19.01	31,683.25
1959	128,173.89	80.00	1,602.17	19.69	31,539.98
1960	103,137.45	80.00	1,289.21	20.37	26,265.71
1961	261,443.45	80.00	3,268.03	21.07	68,853.78
1962	236,861.74	80.00	2,960.76	21.78	64,479.65
1963	249,922.94	80.00	3,124.02	22.49	70,265.53

FE 2025 Study - Metropolitan Edison
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 80 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1964	272,824.35	80.00	3,410.29	23.21	79,167.86
1965	309,639.49	80.00	3,870.47	23.95	92,680.41
1966	337,779.39	80.00	4,222.22	24.69	104,251.39
1967	343,696.86	80.00	4,296.19	25.44	109,303.68
1968	362,726.73	80.00	4,534.06	26.20	118,800.68
1969	406,658.99	80.00	5,083.21	26.97	137,097.35
1970	436,742.96	80.00	5,459.26	27.75	151,516.05
1971	509,237.56	80.00	6,365.44	28.54	181,686.89
1972	602,780.26	80.00	7,534.72	29.34	221,071.14
1973	673,834.77	80.00	8,422.89	30.15	253,923.22
1974	603,861.29	80.00	7,548.23	30.97	233,746.85
1975	478,231.36	80.00	5,977.86	31.79	190,052.62
1976	546,209.00	80.00	6,827.58	32.63	222,761.93
1977	585,072.88	80.00	7,313.38	33.47	244,772.08
1978	566,255.81	80.00	7,078.16	34.32	242,951.82
1979	499,559.01	80.00	6,244.46	35.18	219,705.76
1980	560,471.48	80.00	7,005.86	36.05	252,573.68
1981	482,643.87	80.00	6,033.02	36.93	222,780.76
1982	576,747.84	80.00	7,209.31	37.81	272,607.48
1983	746,951.68	80.00	9,336.85	38.70	361,373.61
1984	769,512.91	80.00	9,618.86	39.60	380,921.57
1985	868,911.28	80.00	10,861.34	40.51	439,943.91
1986	1,006,556.20	80.00	12,581.89	41.42	521,129.19
1987	1,039,189.12	80.00	12,989.80	42.34	549,940.27
1988	951,726.21	80.00	11,896.52	43.26	514,635.09
1989	857,602.96	80.00	10,719.98	44.19	473,691.70
1990	956,536.66	80.00	11,956.65	45.12	539,530.79

FE 2025 Study - Metropolitan Edison
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *80* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1991	995,460.94	80.00	12,443.20	46.06	573,174.63
1992	1,229,456.50	80.00	15,368.13	47.01	722,413.41
1993	1,673,949.27	80.00	20,924.26	47.96	1,003,434.94
1994	1,560,245.89	80.00	19,502.98	48.91	953,891.20
1995	1,224,781.79	80.00	15,309.70	49.87	763,448.77
1996	1,210,914.14	80.00	15,136.35	50.83	769,344.13
1997	846,746.34	80.00	10,584.28	51.79	548,175.82
1998	818,439.49	80.00	10,230.44	52.76	539,759.45
2003	251,094.57	80.00	3,138.67	57.64	180,910.32
2007	101,623.06	80.00	1,270.28	61.58	78,224.23
2009	235,206.67	80.00	2,940.07	63.56	186,868.90
2010	12,975.78	80.00	162.20	64.55	10,469.97
2011	237,058.88	80.00	2,963.22	65.54	194,220.21
Total	28,932,718.77	80.00	361,657.22	39.62	14,329,931.41

Composite Average Remaining Life ... 39.62 Years

FE 2025 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1900	6,649.92	0.00	0.00	0.00	0.00
1912	1,816.55	70.00	25.95	1.16	30.19
1922	38.82	70.00	0.55	3.60	2.00
1923	1,336.79	70.00	19.10	3.85	73.53
1924	2,728.95	70.00	38.98	4.11	160.34
1926	1,349.72	70.00	19.28	4.62	89.13
1927	3,117.19	70.00	44.53	4.89	217.68
1928	6,388.75	70.00	91.27	5.14	468.71
1929	5,511.83	70.00	78.74	5.40	425.13
1930	1,267.43	70.00	18.11	5.65	102.30
1931	2,898.93	70.00	41.41	5.91	244.85
1933	1,422.20	70.00	20.32	6.43	130.60
1935	514.20	70.00	7.35	6.95	51.08
1936	5.49	70.00	0.08	7.23	0.57
1937	4,494.55	70.00	64.21	7.49	481.13
1938	501,014.59	70.00	7,157.35	7.77	55,631.97
1939	1,969.24	70.00	28.13	8.06	226.74
1940	4,050.77	70.00	57.87	8.34	482.79
1941	21,977.11	70.00	313.96	8.64	2,713.31
1942	4,253.41	70.00	60.76	8.94	543.42
1943	103.69	70.00	1.48	9.26	13.71
1944	265.92	70.00	3.80	9.58	36.39
1945	4,131.52	70.00	59.02	9.91	585.04
1946	6,375.07	70.00	91.07	10.26	934.11
1947	15,657.98	70.00	223.69	10.61	2,373.16
1948	23,966.87	70.00	342.38	10.98	3,757.88
1949	35,464.70	70.00	506.64	11.35	5,751.92

FE 2025 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1950	40,437.71	70.00	577.68	11.74	6,783.88
1951	45,996.49	70.00	657.09	12.15	7,981.39
1952	29,847.06	70.00	426.39	12.56	5,356.35
1953	66,045.08	70.00	943.50	12.99	12,256.39
1954	49,093.60	70.00	701.34	13.43	9,421.93
1955	34,600.24	70.00	494.29	13.89	6,865.25
1956	63,950.06	70.00	913.57	14.36	13,119.20
1957	106,175.94	70.00	1,516.80	14.84	22,513.17
1958	56,691.40	70.00	809.88	15.34	12,424.19
1959	30,080.32	70.00	429.72	15.85	6,811.27
1960	42,473.84	70.00	606.77	16.37	9,934.27
1961	54,835.49	70.00	783.36	16.91	13,248.73
1962	75,058.70	70.00	1,072.27	17.46	18,723.29
1963	47,956.82	70.00	685.10	18.03	12,350.50
1964	46,251.13	70.00	660.73	18.60	12,291.19
1965	44,037.95	70.00	629.11	19.19	12,074.69
1966	65,906.76	70.00	941.53	19.79	18,636.20
1967	164,370.15	70.00	2,348.14	20.40	47,913.36
1968	143,923.81	70.00	2,056.05	21.03	43,245.15
1969	228,390.93	70.00	3,262.73	21.67	70,696.72
1970	160,104.36	70.00	2,287.20	22.32	51,046.39
1971	575,285.63	70.00	8,218.37	22.98	188,823.08
1972	545,783.09	70.00	7,796.90	23.65	184,371.76
1973	295,178.34	70.00	4,216.83	24.33	102,577.56
1974	131,713.69	70.00	1,881.62	25.01	47,065.94
1975	3,653.41	70.00	52.19	25.72	1,342.15
1976	25,263.50	70.00	360.91	26.42	9,536.38

FE 2025 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1977	14,534.92	70.00	207.64	27.14	5,636.18
1978	4,573.91	70.00	65.34	27.87	1,821.08
1979	68,159.53	70.00	973.71	28.61	27,855.58
1980	80,565.25	70.00	1,150.93	29.35	33,782.08
1981	24,651.79	70.00	352.17	30.10	10,601.50
1982	9,253.30	70.00	132.19	30.87	4,080.37
1983	202,790.39	70.00	2,897.01	31.64	91,649.04
1984	82,694.09	70.00	1,181.34	32.42	38,293.48
1985	183,870.65	70.00	2,626.72	33.20	87,206.34
1986	321,930.39	70.00	4,599.01	33.99	156,338.57
1987	266,765.60	70.00	3,810.94	34.79	132,598.04
1988	266,213.51	70.00	3,803.05	35.60	135,391.12
1989	614,322.01	70.00	8,776.03	36.42	319,606.41
1990	662,744.18	70.00	9,467.77	37.24	352,575.99
1991	294,558.55	70.00	4,207.98	38.07	160,201.16
1992	422,115.70	70.00	6,030.22	38.91	234,616.03
1993	1,308,921.18	70.00	18,698.87	39.75	743,304.16
1994	160,899.25	70.00	2,298.56	40.60	93,324.09
1995	595,789.68	70.00	8,511.28	41.46	352,850.26
1996	38,184.77	70.00	545.50	42.32	23,086.49
1998	376,026.63	70.00	5,371.81	44.07	236,726.16
1999	24,587.88	70.00	351.26	44.95	15,788.87
2000	1,773.94	70.00	25.34	45.84	1,161.65
2001	9,902.35	70.00	141.46	46.73	6,610.89
2002	7,086.59	70.00	101.24	47.63	4,822.05
2003	8,037.53	70.00	114.82	48.54	5,573.22
2005	440,507.29	70.00	6,292.96	50.36	316,943.96

FE 2025 Study - Metropolitan Edison
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	61,261.25	70.00	875.16	51.29	44,882.84
2007	1,173,230.81	70.00	16,760.44	52.21	875,091.58
2008	635.99	70.00	9.09	53.14	482.82
2009	399,091.66	70.00	5,701.31	54.08	308,305.15
2010	72,874.91	70.00	1,041.07	55.02	57,276.15
2011	156,261.75	70.00	2,232.31	55.96	124,919.20
2012	213,137.15	70.00	3,044.82	56.91	173,273.89
2013	863,167.90	70.00	12,330.97	57.86	713,454.76
2014	91,219.36	70.00	1,303.13	58.81	76,642.72
2015	100,084.56	70.00	1,429.78	59.77	85,461.23
2016	912,203.43	70.00	13,031.48	60.73	791,446.12
2017	198,549.41	70.00	2,836.42	61.70	175,003.82
2018	89,459.25	70.00	1,277.99	62.67	80,086.58
2019	87,206.04	70.00	1,245.80	63.64	79,278.91
2020	74,602.42	70.00	1,065.75	64.61	68,857.62
2021	397,824.46	70.00	5,683.21	65.59	372,734.57
2022	786,028.79	70.00	11,228.98	66.56	747,431.72
2023	1,763,741.59	70.00	25,196.31	67.54	1,701,811.45
Total	17,763,919.28	69.29	253,675.25	43.72	11,091,823.90

Composite Average Remaining Life ... 43.72 Years

FE 2025 Study - Metropolitan Edison
Electric Division
361.10 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	2.80	70.00	0.04	57.86	2.31
2016	61,263.28	70.00	875.19	60.73	53,153.26
2017	160,278.28	70.00	2,289.69	61.70	141,271.19
2018	89,952.94	70.00	1,285.04	62.67	80,528.55
2019	27,617.58	70.00	394.54	63.64	25,107.11
2023	107.86	70.00	1.54	67.54	104.07
Total	339,222.74	70.00	4,846.04	61.94	300,166.49

Composite Average Remaining Life ... 61.94 Years

FE 2025 Study - Metropolitan Edison
Electric Division
361.20 Structures - Subtrans (Roads and Trails)
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1903	2,377.57	75.00	31.70	1.04	32.94
1975	1,494.25	75.00	19.92	30.15	600.69
1983	5,088.94	75.00	67.85	36.28	2,461.54
1993	2,946.76	75.00	39.29	44.57	1,751.30
Total	11,907.52	75.00	158.77	30.53	4,846.48

Composite Average Remaining Life ... 30.53 Years

FE 2025 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1914	346.66	0.00	0.00	0.00	0.00
1916	48.92	60.00	0.82	0.66	0.54
1917	984.36	60.00	16.41	0.79	13.03
1918	971.65	60.00	16.19	1.04	16.76
1919	506.12	60.00	8.44	1.30	10.93
1920	1,230.10	60.00	20.50	1.57	32.26
1921	23,195.08	60.00	386.58	1.82	704.01
1922	3,796.97	60.00	63.28	2.11	133.40
1923	59,890.31	60.00	998.17	2.36	2,352.49
1924	33,267.02	60.00	554.45	2.62	1,454.40
1925	28,783.84	60.00	479.73	2.90	1,391.01
1926	33,534.30	60.00	558.90	3.19	1,781.30
1927	171,692.52	60.00	2,861.53	3.46	9,909.41
1928	33,305.98	60.00	555.10	3.76	2,086.28
1929	70,416.65	60.00	1,173.61	4.03	4,734.54
1930	26,006.80	60.00	433.45	4.32	1,871.14
1931	32,971.17	60.00	549.52	4.60	2,530.16
1932	1,055.17	60.00	17.59	4.90	86.14
1933	5,292.74	60.00	88.21	5.18	457.29
1934	382.45	60.00	6.37	5.48	34.94
1935	7,370.01	60.00	122.83	5.77	708.26
1936	1,730.86	60.00	28.85	6.05	174.64
1937	37,434.07	60.00	623.90	6.34	3,958.42
1938	9,143.74	60.00	152.40	6.64	1,011.96
1939	4,686.51	60.00	78.11	6.93	541.37
1940	16,242.00	60.00	270.70	7.23	1,957.56
1941	177,268.31	60.00	2,954.46	7.52	22,228.32

FE 2025 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1942	72,905.14	60.00	1,215.08	7.82	9,502.33
1943	72,540.43	60.00	1,209.00	8.12	9,818.87
1944	10,892.79	60.00	181.55	8.43	1,530.19
1945	17,417.23	60.00	290.29	8.74	2,535.82
1946	35,367.39	60.00	589.46	9.05	5,335.87
1947	178,688.84	60.00	2,978.14	9.37	27,897.16
1948	214,917.34	60.00	3,581.95	9.69	34,706.22
1949	393,961.41	60.00	6,566.01	10.02	65,777.81
1950	632,410.05	60.00	10,540.14	10.35	109,136.52
1951	734,686.92	60.00	12,244.75	10.70	130,963.44
1952	295,389.71	60.00	4,923.15	11.05	54,381.94
1953	904,575.93	60.00	15,076.23	11.40	171,891.77
1954	1,097,033.54	60.00	18,283.85	11.77	215,117.68
1955	804,991.49	60.00	13,416.49	12.14	162,849.14
1956	632,214.44	60.00	10,536.88	12.52	131,914.20
1957	1,506,637.65	60.00	25,110.56	12.91	324,149.09
1958	982,404.91	60.00	16,373.37	13.31	217,890.17
1959	681,630.24	60.00	11,360.48	13.72	155,812.88
1960	716,123.89	60.00	11,935.37	14.13	168,678.12
1961	726,842.66	60.00	12,114.01	14.56	176,372.49
1962	788,435.93	60.00	13,140.57	15.00	197,046.24
1963	694,960.30	60.00	11,582.64	15.44	178,854.25
1964	633,548.04	60.00	10,559.11	15.90	167,863.54
1965	571,364.67	60.00	9,522.72	16.36	155,816.20
1966	1,041,393.97	60.00	17,356.52	16.84	292,260.21
1967	3,215,097.01	60.00	53,584.82	17.32	928,321.66
1968	1,105,136.76	60.00	18,418.90	17.82	328,207.14

FE 2025 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1969	2,818,880.05	60.00	46,981.22	18.33	860,934.18
1970	1,315,285.77	60.00	21,921.37	18.84	412,971.12
1971	3,076,127.73	60.00	51,268.67	19.37	992,822.03
1972	1,881,105.40	60.00	31,351.68	19.90	623,925.12
1973	2,141,060.14	60.00	35,684.25	20.45	729,598.34
1974	1,690,106.40	60.00	28,168.37	21.00	591,523.77
1975	405,813.58	60.00	6,763.54	21.56	145,852.64
1976	882,615.37	60.00	14,710.22	22.14	325,630.59
1977	311,084.12	60.00	5,184.72	22.72	117,801.36
1978	175,095.77	60.00	2,918.26	23.31	68,036.78
1979	623,025.14	60.00	10,383.73	23.92	248,339.76
1980	328,842.68	60.00	5,480.70	24.53	134,420.59
1981	1,026,287.39	60.00	17,104.75	25.15	430,131.42
1982	481,204.86	60.00	8,020.06	25.77	206,707.12
1983	1,974,329.71	60.00	32,905.41	26.41	869,119.98
1984	3,321,786.53	60.00	55,362.97	27.06	1,498,104.55
1985	2,941,562.91	60.00	49,025.92	27.71	1,358,738.01
1986	3,087,559.78	60.00	51,459.20	28.38	1,460,250.18
1987	3,148,554.75	60.00	52,475.78	29.05	1,524,369.09
1988	2,827,477.43	60.00	47,124.51	29.73	1,400,853.34
1989	4,278,528.96	60.00	71,308.64	30.42	2,168,883.40
1990	8,521,635.26	60.00	142,026.90	31.11	4,418,679.37
1991	5,856,855.58	60.00	97,614.01	31.81	3,105,585.35
1992	6,243,127.18	60.00	104,051.86	32.52	3,384,270.33
1993	5,746,671.91	60.00	95,777.62	33.24	3,184,015.83
1994	2,369,334.50	60.00	39,488.81	33.97	1,341,347.22
1995	4,865,505.60	60.00	81,091.56	34.70	2,814,030.65

FE 2025 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1996	1,070,496.22	60.00	17,841.56	35.44	632,352.32
1997	5,469,082.64	60.00	91,151.15	36.19	3,298,761.42
1998	3,136,285.71	60.00	52,271.30	36.94	1,931,072.95
1999	1,756,077.71	60.00	29,267.89	37.70	1,103,539.63
2000	1,418,335.99	60.00	23,638.87	38.47	909,406.94
2001	6,129,735.70	60.00	102,162.00	39.25	4,009,456.69
2002	3,058,237.95	60.00	50,970.50	40.03	2,040,214.70
2003	4,902,773.74	60.00	81,712.69	40.81	3,335,073.82
2004	2,359,407.15	60.00	39,323.35	41.61	1,636,138.53
2005	8,710,466.93	60.00	145,174.08	42.41	6,156,460.01
2006	4,618,458.26	60.00	76,974.11	43.21	3,326,182.71
2007	8,652,408.73	60.00	144,206.45	44.02	6,348,585.75
2008	8,871,480.22	60.00	147,857.63	44.84	6,630,285.41
2009	5,839,334.97	60.00	97,322.00	45.66	4,444,150.62
2010	14,776,870.08	60.00	246,280.55	46.49	11,450,642.95
2011	5,800,395.28	60.00	96,673.01	47.33	4,575,479.79
2012	6,593,004.89	60.00	109,883.14	48.17	5,292,890.81
2013	18,479,354.79	60.00	307,988.47	49.01	15,095,970.68
2014	10,447,818.28	60.00	174,129.87	49.87	8,683,165.70
2015	11,546,289.26	60.00	192,437.67	50.72	9,760,870.78
2016	9,367,273.17	60.00	156,120.83	51.58	8,053,158.59
2017	7,956,680.08	60.00	132,611.00	52.45	6,955,377.68
2018	8,161,121.33	60.00	136,018.35	53.32	7,252,432.93
2019	8,943,768.88	60.00	149,062.44	54.20	8,078,607.55
2020	12,480,265.99	60.00	208,003.91	55.08	11,456,261.44
2021	11,712,710.89	60.00	195,211.36	55.96	10,924,514.66
2022	11,556,971.72	60.00	192,615.71	56.85	10,950,542.51

FE 2025 Study - Metropolitan Edison
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	10,596,914.60	60.00	176,614.80	57.75	10,198,847.73
2024	22,572,963.97	60.00	376,215.12	58.64	22,062,699.29
2025	8,465,008.00	60.00	141,083.11	59.55	8,401,088.26
Total	337,332,580.62	59.46	5,622,189.74	43.38	243,895,986.48

Composite Average Remaining Life ... 43.38 Years

FE 2025 Study - Metropolitan Edison
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1968	64,221.09	60.00	1,070.35	17.82	19,072.59
1971	13,539.37	60.00	225.66	19.37	4,369.84
1973	3,233.03	60.00	53.88	20.45	1,101.70
1986	7,888.25	60.00	131.47	28.38	3,730.72
1997	4.43	60.00	0.07	36.19	2.67
2002	907,443.87	60.00	15,124.03	40.03	605,374.85
2012	950,122.49	60.00	15,835.33	48.17	762,762.15
2013	8,732.28	60.00	145.54	49.01	7,133.49
2014	237,507.13	60.00	3,958.44	49.87	197,391.81
2015	733,845.10	60.00	12,230.72	50.72	620,369.63
2016	780,994.97	60.00	13,016.55	51.58	671,430.87
2017	267,474.74	60.00	4,457.90	52.45	233,814.58
2018	1,498,586.27	60.00	24,976.37	53.32	1,331,728.32
2019	979,592.52	60.00	16,326.50	54.20	884,833.19
2020	2,736,898.03	60.00	45,614.85	55.08	2,512,335.83
2021	792,168.98	60.00	13,202.78	55.96	738,860.69
2022	650,129.17	60.00	10,835.46	56.85	616,014.93
2023	1,287,277.94	60.00	21,454.58	57.75	1,238,922.10
Total	11,919,659.66	60.00	198,660.49	52.60	10,449,249.95

Composite Average Remaining Life ... 52.60 Years

FE 2025 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	205,210.08	65.00	3,157.05	13.85	43,738.80
1944	42,632.58	65.00	655.88	14.20	9,312.73
1945	80,420.33	65.00	1,237.22	14.55	18,002.27
1946	145,210.46	65.00	2,233.98	14.91	33,302.58
1947	165,046.74	65.00	2,539.15	15.27	38,776.57
1948	294,169.24	65.00	4,525.63	15.64	70,787.01
1949	247,561.34	65.00	3,808.60	16.02	61,009.35
1950	219,290.25	65.00	3,373.66	16.40	55,337.48
1951	106,871.65	65.00	1,644.16	16.79	27,612.57
1952	412,137.54	65.00	6,340.51	17.19	109,012.67
1953	422,694.96	65.00	6,502.93	17.60	114,446.08
1954	588,081.88	65.00	9,047.32	18.01	162,971.74
1955	651,318.31	65.00	10,020.18	18.44	184,722.89
1956	705,088.49	65.00	10,847.40	18.86	204,629.27
1957	762,456.87	65.00	11,729.98	19.30	226,412.76
1958	871,003.78	65.00	13,399.92	19.75	264,608.41
1959	988,438.21	65.00	15,206.58	20.20	307,186.11
1960	988,292.97	65.00	15,204.35	20.66	314,147.75
1961	1,071,635.85	65.00	16,486.53	21.13	348,391.07
1962	1,271,195.39	65.00	19,556.65	21.61	422,592.65
1963	1,295,175.58	65.00	19,925.57	22.10	440,259.02
1964	1,467,287.46	65.00	22,573.42	22.59	509,886.17
1965	1,667,403.24	65.00	25,652.09	23.09	592,326.87
1966	1,690,083.38	65.00	26,001.01	23.60	613,607.45
1967	1,950,042.19	65.00	30,000.34	24.12	723,562.16
1968	2,261,868.39	65.00	34,797.61	24.64	857,578.66
1969	2,518,627.54	65.00	38,747.71	25.18	975,583.00

FE 2025 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	2,676,838.50	65.00	41,181.70	25.72	1,059,192.81
1971	3,201,549.71	65.00	49,254.10	26.27	1,293,829.46
1972	3,032,835.52	65.00	46,658.52	26.83	1,251,672.59
1973	3,972,693.16	65.00	61,117.72	27.39	1,674,003.89
1974	3,972,192.06	65.00	61,110.01	27.96	1,708,813.43
1975	2,741,153.17	65.00	42,171.15	28.54	1,203,618.29
1976	2,850,928.44	65.00	43,859.98	29.13	1,277,610.64
1977	2,790,177.26	65.00	42,925.36	29.72	1,275,831.74
1978	2,936,283.34	65.00	45,173.12	30.32	1,369,860.45
1979	2,740,588.19	65.00	42,162.46	30.93	1,304,148.69
1980	2,710,337.03	65.00	41,697.06	31.55	1,315,468.42
1981	2,560,290.64	65.00	39,388.68	32.17	1,267,167.61
1982	3,125,405.49	65.00	48,082.66	32.80	1,577,064.79
1983	4,553,938.05	65.00	70,059.86	33.44	2,342,459.96
1984	3,988,079.54	65.00	61,354.43	34.08	2,090,728.36
1985	5,586,736.04	65.00	85,948.89	34.73	2,984,603.46
1986	6,588,630.33	65.00	101,362.49	35.38	3,586,096.33
1987	8,155,276.83	65.00	125,464.49	36.04	4,521,804.91
1988	8,339,385.54	65.00	128,296.90	36.71	4,709,280.83
1989	9,865,445.97	65.00	151,774.51	37.38	5,673,286.18
1990	9,554,587.05	65.00	146,992.12	38.06	5,594,049.95
1991	13,130,015.61	65.00	201,998.14	38.74	7,825,785.95
1992	9,505,521.65	65.00	146,237.27	39.43	5,766,133.25
1993	9,700,183.70	65.00	149,232.04	40.13	5,988,084.67
1994	8,736,032.76	65.00	134,399.10	40.83	5,487,036.19
1995	8,073,648.42	65.00	124,208.68	41.53	5,158,508.67
1996	5,381,145.82	65.00	82,786.00	42.24	3,497,012.24

FE 2025 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	7,489,511.48	65.00	115,222.05	42.96	4,949,459.04
1998	9,676,716.15	65.00	148,871.01	43.68	6,502,101.11
1999	6,599,074.93	65.00	101,523.17	44.40	4,507,577.32
2000	5,111,980.34	65.00	78,645.03	45.13	3,549,160.17
2001	9,428,103.52	65.00	145,046.24	45.86	6,651,960.46
2002	5,440,625.77	65.00	83,701.06	46.60	3,900,380.77
2003	5,380,521.48	65.00	82,776.39	47.34	3,918,575.33
2004	6,705,534.44	65.00	103,160.99	48.09	4,960,540.50
2005	9,314,995.38	65.00	143,306.13	48.83	6,998,154.82
2006	9,207,349.24	65.00	141,650.05	49.59	7,024,077.68
2007	8,626,905.79	65.00	132,720.25	50.34	6,681,750.11
2008	15,231,792.22	65.00	234,332.82	51.10	11,975,496.74
2009	12,673,449.83	65.00	194,974.12	51.87	10,113,154.76
2010	10,629,325.68	65.00	163,526.38	52.64	8,607,458.97
2011	11,696,633.19	65.00	179,946.33	53.41	9,610,666.60
2012	18,549,026.22	65.00	285,366.66	54.18	15,462,035.30
2013	8,987,331.07	65.00	138,265.19	54.96	7,599,391.56
2014	12,641,898.21	65.00	194,488.72	55.74	10,841,610.19
2015	7,055,242.71	65.00	108,541.06	56.53	6,135,922.02
2016	9,106,270.99	65.00	140,095.02	57.32	8,030,213.72
2017	14,462,881.60	65.00	222,503.55	58.11	12,930,522.93
2018	22,766,045.69	65.00	350,243.21	58.91	20,632,749.95
2019	21,867,322.77	65.00	336,416.85	59.71	20,087,803.69
2020	26,043,326.74	65.00	400,662.39	60.52	24,246,237.43
2021	24,801,802.01	65.00	381,562.21	61.32	23,398,384.27
2022	35,501,873.02	65.00	546,176.97	62.13	33,936,218.54
2023	36,378,897.73	65.00	559,669.52	62.95	35,230,259.91

FE 2025 Study - Metropolitan Edison
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	24,966,740.92	65.00	384,099.71	63.77	24,492,882.53
2025	31,094,517.82	65.00	478,372.21	64.59	30,897,189.99
Total	600,994,841.46	65.00	9,245,978.18	50.23	464,404,894.21

Composite Average Remaining Life ... 50.23 Years

FE 2025 Study - Metropolitan Edison
Electric Division
364.10 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *80* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1926	1,345.11	80.00	16.81	5.19	87.19
1929	2,082.40	80.00	26.03	6.01	156.41
1948	2,335.61	80.00	29.19	12.93	377.63
1953	4,671.22	80.00	58.39	15.76	920.36
1955	2,335.61	80.00	29.19	17.02	497.01
1962	16,349.25	80.00	204.36	21.78	4,450.67
1998	6,147.80	80.00	76.85	52.76	4,054.46
2007	859.01	80.00	10.74	61.58	661.22
Total	36,126.01	80.00	451.57	24.81	11,204.96

Composite Average Remaining Life ... 24.81 Years

FE 2025 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	702.85	65.00	10.81	9.51	102.82
1938	1,728.17	65.00	26.59	12.21	324.66
1939	96.14	65.00	1.48	12.53	18.53
1940	283.10	65.00	4.36	12.85	55.98
1941	261.13	65.00	4.02	13.18	52.95
1942	264.57	65.00	4.07	13.51	55.01
1943	113.70	65.00	1.75	13.85	24.23
1944	795.41	65.00	12.24	14.20	173.75
1945	65.71	65.00	1.01	14.55	14.71
1946	440.47	65.00	6.78	14.91	101.02
1947	732.03	65.00	11.26	15.27	171.99
1948	1,234.77	65.00	19.00	15.64	297.13
1949	591.25	65.00	9.10	16.02	145.71
1950	1,539.84	65.00	23.69	16.40	388.58
1951	1,273.63	65.00	19.59	16.79	329.07
1952	28,420.50	65.00	437.23	17.19	7,517.38
1953	24,305.18	65.00	373.92	17.60	6,580.71
1954	12,257.86	65.00	188.58	18.01	3,396.95
1955	1,900.21	65.00	29.23	18.44	538.93
1956	3,469.19	65.00	53.37	18.86	1,006.82
1957	23,165.84	65.00	356.39	19.30	6,879.13
1958	2,013.13	65.00	30.97	19.75	611.58
1959	12,639.83	65.00	194.46	20.20	3,928.20
1960	55,483.74	65.00	853.59	20.66	17,636.56
1961	50,383.33	65.00	775.12	21.13	16,379.73
1962	6,408.25	65.00	98.59	21.61	2,130.34
1963	1,843.94	65.00	28.37	22.10	626.80

FE 2025 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1964	11,814.01	65.00	181.75	22.59	4,105.40
1965	3,787.29	65.00	58.27	23.09	1,345.39
1966	2,020.96	65.00	31.09	23.60	733.74
1967	1,849.98	65.00	28.46	24.12	686.43
1968	5,622.75	65.00	86.50	24.64	2,131.84
1969	1,630.57	65.00	25.09	25.18	631.60
1970	285,717.12	65.00	4,395.60	25.72	113,054.83
1971	10,343.25	65.00	159.13	26.27	4,179.98
1972	832.50	65.00	12.81	26.83	343.58
1973	1,003.05	65.00	15.43	27.39	422.66
1974	2,634.66	65.00	40.53	27.96	1,133.42
1975	26,188.75	65.00	402.90	28.54	11,499.27
1976	8,584.91	65.00	132.07	29.13	3,847.23
1977	3,204.55	65.00	49.30	29.72	1,465.31
1978	11,980.20	65.00	184.31	30.32	5,589.11
1979	10,907.53	65.00	167.81	30.93	5,190.51
1980	756.21	65.00	11.63	31.55	367.03
1981	18,052.63	65.00	277.73	32.17	8,934.81
1982	7,111.34	65.00	109.40	32.80	3,588.35
1983	7,736.69	65.00	119.02	33.44	3,979.61
1984	5,606.54	65.00	86.25	34.08	2,939.20
1985	7,962.30	65.00	122.50	34.73	4,253.70
1987	28,399.12	65.00	436.90	36.04	15,746.28
1988	8,946.17	65.00	137.63	36.71	5,051.93
1990	376.27	65.00	5.79	38.06	220.30
1991	401.68	65.00	6.18	38.74	239.41
1997	977.29	65.00	15.04	42.96	645.84

FE 2025 Study - Metropolitan Edison
Electric Division
364.11 Poles, Towers, and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	27,465.40	65.00	422.54	47.34	20,002.75
2004	12,230.16	65.00	188.15	48.09	9,047.48
2005	30,435.12	65.00	468.23	48.83	22,865.25
2006	47,470.76	65.00	730.31	49.59	36,214.36
2007	21,306.46	65.00	327.79	50.34	16,502.38
2008	4,708.79	65.00	72.44	51.10	3,702.13
2012	138,052.44	65.00	2,123.86	54.18	115,077.29
2014	157,467.11	65.00	2,422.55	55.74	135,042.78
2016	7,418.36	65.00	114.13	57.32	6,541.76
2017	485.63	65.00	7.47	58.11	434.18
2018	98,981.47	65.00	1,522.78	58.91	89,706.40
2019	19,456.05	65.00	299.32	59.71	17,872.76
2020	14,421.96	65.00	221.87	60.52	13,426.79
2021	101,382.41	65.00	1,559.71	61.32	95,645.65
2022	237,784.97	65.00	3,658.19	62.13	227,298.51
2023	1,608,492.46	65.00	24,745.78	62.95	1,557,705.45
Total	3,234,421.64	65.00	49,759.81	53.03	2,638,901.91

Composite Average Remaining Life ... 53.03 Years

FE 2025 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	1,103,421.84	60.00	18,390.05	18.75	344,874.71
1944	20,109.03	60.00	335.14	19.25	6,452.62
1945	62,535.93	60.00	1,042.25	19.75	20,587.68
1946	105,147.27	60.00	1,752.42	20.25	35,492.00
1947	98,910.10	60.00	1,648.47	20.75	34,210.78
1948	169,637.09	60.00	2,827.24	21.25	60,087.08
1949	220,162.33	60.00	3,669.31	21.75	79,818.02
1950	104,558.30	60.00	1,742.61	22.25	38,777.94
1951	183,537.61	60.00	3,058.91	22.75	69,598.54
1952	129,465.01	60.00	2,157.71	23.25	50,172.62
1953	209,155.26	60.00	3,485.86	23.75	82,798.36
1954	334,143.23	60.00	5,568.96	24.25	135,061.57
1955	369,044.92	60.00	6,150.64	24.75	152,243.93
1956	374,957.35	60.00	6,249.18	25.25	157,807.29
1957	487,141.75	60.00	8,118.89	25.75	209,081.13
1958	527,674.07	60.00	8,794.42	26.25	230,874.38
1959	531,836.54	60.00	8,863.79	26.75	237,127.06
1960	552,956.70	60.00	9,215.79	27.25	251,151.28
1961	668,270.26	60.00	11,137.65	27.75	309,094.72
1962	741,739.44	60.00	12,362.11	28.25	349,256.95
1963	833,757.96	60.00	13,895.73	28.75	399,532.32
1964	758,634.05	60.00	12,643.68	29.25	369,854.74
1965	897,618.51	60.00	14,960.05	29.75	445,093.00
1966	1,094,582.10	60.00	18,242.72	30.25	551,879.94
1967	1,418,084.25	60.00	23,634.33	30.75	726,803.64
1968	1,357,274.65	60.00	22,620.85	31.25	706,946.90
1969	1,545,374.92	60.00	25,755.80	31.75	817,797.47

FE 2025 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1970	1,610,016.76	60.00	26,833.15	32.25	865,420.93
1971	1,995,317.68	60.00	33,254.72	32.75	1,089,155.46
1972	1,817,078.90	60.00	30,284.12	33.25	1,007,004.20
1973	1,990,412.28	60.00	33,172.96	33.75	1,119,649.17
1974	2,034,456.64	60.00	33,907.02	34.25	1,161,377.66
1975	1,265,572.57	60.00	21,092.51	34.75	733,002.77
1976	1,425,982.60	60.00	23,765.97	35.25	837,792.51
1977	1,269,135.40	60.00	21,151.89	35.75	756,217.15
1978	1,235,343.07	60.00	20,588.70	36.25	746,375.78
1979	899,196.72	60.00	14,986.35	36.75	550,774.02
1980	1,257,682.34	60.00	20,961.01	37.25	780,832.88
1981	1,197,766.59	60.00	19,962.43	37.75	753,614.79
1982	1,439,637.92	60.00	23,993.55	38.25	917,792.47
1983	2,432,544.42	60.00	40,541.71	38.75	1,571,056.45
1984	2,238,034.07	60.00	37,299.92	39.25	1,464,081.34
1985	2,590,822.67	60.00	43,179.63	39.75	1,716,458.07
1986	3,429,211.45	60.00	57,152.54	40.25	2,300,478.13
1987	3,395,231.18	60.00	56,586.21	40.75	2,305,974.94
1988	2,951,405.98	60.00	49,189.25	41.25	2,029,131.29
1989	3,966,251.70	60.00	66,103.05	41.75	2,759,901.71
1990	5,415,821.76	60.00	90,262.14	42.25	3,813,708.90
1991	6,345,780.11	60.00	105,761.17	42.75	4,521,445.01
1992	6,986,766.48	60.00	116,444.09	43.25	5,036,375.66
1993	6,767,666.25	60.00	112,792.49	43.75	4,934,832.78
1994	7,317,169.48	60.00	121,950.72	44.25	5,396,491.84
1995	5,260,338.79	60.00	87,670.80	44.75	3,923,390.95
1996	3,739,152.89	60.00	62,318.14	45.25	2,819,981.60

FE 2025 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1997	5,171,839.17	60.00	86,195.83	45.75	3,943,576.72
1998	5,002,728.57	60.00	83,377.37	46.25	3,856,315.77
1999	5,436,415.89	60.00	90,605.37	46.75	4,235,921.80
2000	5,196,325.04	60.00	86,603.92	47.25	4,092,149.22
2001	5,636,796.21	60.00	93,944.98	47.75	4,485,995.34
2002	5,213,578.30	60.00	86,891.47	48.25	4,192,626.15
2003	3,498,676.74	60.00	58,310.27	48.75	2,842,700.69
2004	7,963,196.38	60.00	132,717.65	49.25	6,536,513.01
2005	12,102,685.69	60.00	201,707.94	49.75	10,035,223.67
2006	11,687,071.81	60.00	194,781.16	50.25	9,787,995.97
2007	20,766,851.53	60.00	346,108.21	50.75	17,565,418.46
2008	18,966,830.21	60.00	316,108.37	51.25	16,200,940.26
2009	21,659,331.29	60.00	360,982.61	51.75	18,681,287.20
2010	14,056,415.02	60.00	234,269.53	52.25	12,240,864.06
2011	22,028,143.27	60.00	367,129.37	52.75	19,366,508.12
2012	33,144,598.77	60.00	552,400.43	53.25	29,415,969.46
2013	14,418,396.07	60.00	240,302.45	53.75	12,916,535.29
2014	18,487,791.51	60.00	308,124.53	54.25	16,716,110.14
2015	15,034,128.14	60.00	250,564.47	54.75	13,718,689.47
2016	20,767,591.63	60.00	346,120.54	55.25	19,123,549.92
2017	22,153,712.40	60.00	369,222.16	55.75	20,584,549.79
2018	37,626,633.51	60.00	627,099.72	56.25	35,275,057.91
2019	36,913,435.92	60.00	615,213.30	56.75	34,914,034.35
2020	37,524,370.17	60.00	625,395.36	57.25	35,804,567.27
2021	30,026,189.20	60.00	500,427.83	57.75	28,900,249.52
2022	30,582,439.79	60.00	509,698.52	58.25	29,690,486.24
2023	42,670,242.38	60.00	711,158.41	58.75	41,781,314.48

FE 2025 Study - Metropolitan Edison
Electric Division
365.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	70,243,679.66	60.00	1,170,707.75	59.25	69,365,671.92
2025	89,972,067.63	60.00	1,499,508.54	59.75	89,597,207.42
Total	761,125,689.07	60.00	12,685,208.84	53.50	678,652,824.71

Composite Average Remaining Life ... 53.50 Years

FE 2025 Study - Metropolitan Edison
Electric Division
365.01 Overhead Conductors and Devices - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1939	38.09	60.00	0.63	16.75	10.64
1940	31.89	60.00	0.53	17.25	9.17
1942	710.00	60.00	11.83	18.25	216.00
1943	27.61	60.00	0.46	18.75	8.63
1944	70.73	60.00	1.18	19.25	22.70
1945	168.73	60.00	2.81	19.75	55.55
1946	99.09	60.00	1.65	20.25	33.45
1947	131.73	60.00	2.20	20.75	45.56
1948	1,390.11	60.00	23.17	21.25	492.39
1949	30.39	60.00	0.51	21.75	11.02
1950	10,526.70	60.00	175.44	22.25	3,904.08
1951	990.10	60.00	16.50	22.75	375.45
1952	22,038.55	60.00	367.30	23.25	8,540.78
1953	13,021.43	60.00	217.02	23.75	5,154.80
1954	2,967.70	60.00	49.46	24.25	1,199.55
1955	4,835.80	60.00	80.60	24.75	1,994.94
1956	3,445.72	60.00	57.43	25.25	1,450.19
1957	11,694.14	60.00	194.90	25.75	5,019.12
1958	152.56	60.00	2.54	26.25	66.75
1959	21,521.10	60.00	358.68	26.75	9,595.50
1960	35,551.43	60.00	592.51	27.25	16,147.35
1961	18,396.12	60.00	306.60	27.75	8,508.75
1962	10,322.71	60.00	172.04	28.25	4,860.57
1963	232.90	60.00	3.88	28.75	111.60
1964	3,067.11	60.00	51.12	29.25	1,495.30
1965	6,210.01	60.00	103.50	29.75	3,079.29
1966	18,679.91	60.00	311.33	30.25	9,418.27

FE 2025 Study - Metropolitan Edison
Electric Division
365.01 Overhead Conductors and Devices - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** O1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1967	1,743.93	60.00	29.06	30.75	893.81
1968	28,411.37	60.00	473.51	31.25	14,798.28
1969	11,879.99	60.00	198.00	31.75	6,286.78
1970	1,093.30	60.00	18.22	32.25	587.67
1971	3,877.44	60.00	64.62	32.75	2,116.52
1972	1,535.15	60.00	25.59	33.25	850.76
1973	2,906.23	60.00	48.44	33.75	1,634.82
1974	13,628.48	60.00	227.14	34.25	7,779.87
1975	4,118.94	60.00	68.65	34.75	2,385.64
1976	9,542.02	60.00	159.03	35.25	5,606.12
1977	4,307.63	60.00	71.79	35.75	2,566.71
1978	4,016.05	60.00	66.93	36.25	2,426.44
1979	1,524.69	60.00	25.41	36.75	933.90
1980	2,385.56	60.00	39.76	37.25	1,481.08
1981	1,869.24	60.00	31.15	37.75	1,176.09
1982	13,228.37	60.00	220.47	38.25	8,433.30
1983	558.15	60.00	9.30	38.75	360.48
1984	2,555.57	60.00	42.59	39.25	1,671.81
1985	9,403.35	60.00	156.72	39.75	6,229.86
1987	25,041.18	60.00	417.35	40.75	17,007.48
1988	16,503.46	60.00	275.05	41.25	11,346.35
1989	1,073.87	60.00	17.90	41.75	747.25
1990	26,393.66	60.00	439.89	42.25	18,585.87
1991	9,128.79	60.00	152.14	42.75	6,504.37
1993	4,294.68	60.00	71.58	43.75	3,131.59
2004	96,623.40	60.00	1,610.36	49.25	79,312.39
2005	77,537.05	60.00	1,292.26	49.75	64,291.65

FE 2025 Study - Metropolitan Edison
Electric Division
365.01 Overhead Conductors and Devices - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *O1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	1,977.22	60.00	32.95	50.25	1,655.93
2007	195,825.21	60.00	3,263.70	50.75	165,636.65
2008	10,488.87	60.00	174.81	51.25	8,959.30
2009	22,850.36	60.00	380.83	51.75	19,708.56
2010	7,205.30	60.00	120.09	52.25	6,274.65
2012	236,026.57	60.00	3,933.71	53.25	209,474.56
2014	160,596.27	60.00	2,676.56	54.25	145,206.36
2015	3,638.52	60.00	60.64	54.75	3,320.16
2016	7,133.20	60.00	118.88	55.25	6,568.51
2017	9,807.05	60.00	163.45	55.75	9,112.41
2018	67,367.30	60.00	1,122.77	56.25	63,157.00
2019	2,451.08	60.00	40.85	56.75	2,318.32
2020	1,105.33	60.00	18.42	57.25	1,054.67
2021	22,958.90	60.00	382.64	57.75	22,097.97
2022	3,113.80	60.00	51.90	58.25	3,022.98
2023	31,588.83	60.00	526.47	58.75	30,930.76
2024	117.03	60.00	1.95	59.25	115.57
Total	1,345,784.75	60.00	22,429.36	46.80	1,049,588.63

Composite Average Remaining Life ... 46.80 Years

FE 2025 Study - Metropolitan Edison
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	380,513.31	70.00	5,435.88	5.80	31,505.73
1944	15,821.25	70.00	226.02	6.08	1,373.98
1945	42,550.51	70.00	607.86	6.38	3,875.96
1946	63,631.42	70.00	909.02	6.68	6,075.58
1947	69,038.07	70.00	986.25	6.99	6,894.34
1948	89,249.67	70.00	1,274.99	7.32	9,328.59
1949	111,809.97	70.00	1,597.28	7.65	12,219.62
1950	64,472.02	70.00	921.02	8.00	7,369.73
1951	142,947.05	70.00	2,042.09	8.37	17,086.56
1952	84,341.60	70.00	1,204.87	8.75	10,543.19
1953	94,275.28	70.00	1,346.78	9.15	12,324.79
1954	140,496.62	70.00	2,007.08	9.57	19,216.60
1955	114,406.64	70.00	1,634.37	10.02	16,369.17
1956	157,112.80	70.00	2,244.46	10.48	23,529.01
1957	154,150.38	70.00	2,202.14	10.97	24,156.05
1958	205,720.85	70.00	2,938.86	11.48	33,747.94
1959	219,487.04	70.00	3,135.51	12.02	37,679.10
1960	184,164.75	70.00	2,630.91	12.57	33,073.85
1961	112,032.35	70.00	1,600.45	13.16	21,056.93
1962	101,482.68	70.00	1,449.75	13.76	19,941.72
1963	105,031.57	70.00	1,500.44	14.38	21,576.02
1964	101,255.83	70.00	1,446.50	15.02	21,720.17
1965	112,141.95	70.00	1,602.02	15.67	25,104.56
1966	137,922.39	70.00	1,970.31	16.33	32,184.89
1967	147,026.94	70.00	2,100.37	17.01	35,725.21
1968	157,352.81	70.00	2,247.89	17.70	39,784.09
1969	167,220.44	70.00	2,388.85	18.39	43,936.70

FE 2025 Study - Metropolitan Edison
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1970	199,854.86	70.00	2,855.06	19.10	54,532.68
1971	188,095.19	70.00	2,687.06	19.81	53,243.26
1972	242,676.69	70.00	3,466.79	20.54	71,216.63
1973	273,558.19	70.00	3,907.96	21.28	83,154.33
1974	264,472.28	70.00	3,778.16	22.02	83,207.19
1975	126,037.32	70.00	1,800.52	22.78	41,024.05
1976	217,645.81	70.00	3,109.21	23.55	73,227.00
1977	249,591.37	70.00	3,565.57	24.33	86,764.01
1978	250,510.99	70.00	3,578.71	25.12	89,908.20
1979	190,024.02	70.00	2,714.62	25.93	70,379.02
1980	234,120.27	70.00	3,344.56	26.74	89,423.30
1981	196,628.87	70.00	2,808.97	27.56	77,407.07
1982	200,843.36	70.00	2,869.18	28.39	81,462.39
1983	346,093.20	70.00	4,944.16	29.23	144,533.15
1984	251,487.33	70.00	3,592.66	30.09	108,092.86
1985	374,897.72	70.00	5,355.66	30.95	165,744.82
1986	648,563.92	70.00	9,265.15	31.82	294,813.41
1987	1,058,580.27	70.00	15,122.50	32.70	494,482.49
1988	1,231,252.20	70.00	17,589.23	33.58	590,732.95
1989	1,328,283.71	70.00	18,975.39	34.48	654,330.75
1990	1,308,777.24	70.00	18,696.73	35.39	661,601.74
1991	1,221,528.11	70.00	17,450.32	36.30	633,424.94
1992	1,262,265.83	70.00	18,032.28	37.22	671,098.10
1993	1,098,372.52	70.00	15,690.96	38.14	598,492.70
1994	1,641,782.22	70.00	23,453.92	39.07	916,428.36
1995	1,004,098.76	70.00	14,344.20	40.01	573,911.26
1996	617,283.24	70.00	8,818.29	40.95	361,147.41

FE 2025 Study - Metropolitan Edison
Electric Division
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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	869,150.23	70.00	12,416.37	41.90	520,269.94
1998	1,228,338.58	70.00	17,547.61	42.86	752,019.63
1999	789,723.85	70.00	11,281.71	43.81	494,288.07
2000	1,060,475.82	70.00	15,149.58	44.78	678,332.04
2001	1,207,765.63	70.00	17,253.71	45.74	789,204.95
2002	1,098,343.80	70.00	15,690.55	46.71	732,905.38
2003	323,271.89	70.00	4,618.15	47.68	220,208.91
2005	6,915,953.00	70.00	98,798.85	49.64	4,904,135.22
2006	581,115.34	70.00	8,301.61	50.62	420,212.84
2007	2,974.20	70.00	42.49	51.60	2,192.47
2008	5,622,608.19	70.00	80,322.59	52.59	4,223,905.61
2009	27,126,138.53	70.00	387,514.39	53.57	20,760,515.73
2010	16,055,137.78	70.00	229,358.00	54.56	12,514,365.34
2011	5,184,882.04	70.00	74,069.39	55.55	4,114,744.24
2012	831,486.57	70.00	11,878.32	56.54	671,650.78
2013	40,359,578.39	70.00	576,562.62	57.54	33,173,552.60
2014	11,540,948.14	70.00	164,869.89	58.53	9,649,924.39
2015	1,165,582.62	70.00	16,651.10	59.53	991,157.32
2016	3,955,815.95	70.00	56,511.38	60.52	3,420,084.54
2017	7,901,698.47	70.00	112,880.86	61.52	6,944,031.00
2018	15,784,990.48	70.00	225,498.77	62.51	14,096,611.33
2019	23,634,161.15	70.00	337,629.24	63.51	21,442,926.42
2020	19,228,895.23	70.00	274,697.18	64.51	17,720,125.25
2021	16,315,692.84	70.00	233,080.20	65.51	15,268,127.66
2022	309,408.58	70.00	4,420.10	66.50	293,955.35
2023	568,759.43	70.00	8,125.10	67.50	548,466.62

FE 2025 Study - Metropolitan Edison
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	229,365,878.41	70.00	3,276,639.57	56.08	183,739,097.77

Composite Average Remaining Life ... 56.08 Years

FE 2025 Study - Metropolitan Edison
Electric Division
365.11 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1940	3,106.30	70.00	44.38	4.96	220.17
1941	3,174.60	70.00	45.35	5.24	237.69
1942	6,158.31	70.00	87.98	5.51	484.71
1944	246.45	70.00	3.52	6.08	21.40
1945	807.20	70.00	11.53	6.38	73.53
1947	41.46	70.00	0.59	6.99	4.14
1948	827.60	70.00	11.82	7.32	86.50
1949	261.20	70.00	3.73	7.65	28.55
1950	9,499.49	70.00	135.71	8.00	1,085.88
1951	44.80	70.00	0.64	8.37	5.35
1952	4,778.63	70.00	68.27	8.75	597.36
1953	4,445.49	70.00	63.51	9.15	581.17
1954	5,293.29	70.00	75.62	9.57	724.00
1955	8,151.92	70.00	116.46	10.02	1,166.37
1956	10,692.28	70.00	152.75	10.48	1,601.26
1957	834.54	70.00	11.92	10.97	130.78
1958	11,461.24	70.00	163.73	11.48	1,880.18
1959	1,895.17	70.00	27.07	12.02	325.34
1960	1,515.25	70.00	21.65	12.57	272.12
1961	11,379.95	70.00	162.57	13.16	2,138.91
1962	4,376.50	70.00	62.52	13.76	860.00
1963	8,450.35	70.00	120.72	14.38	1,735.91
1964	9,388.90	70.00	134.13	15.02	2,013.99
1965	4,416.63	70.00	63.09	15.67	988.72
1966	6,215.37	70.00	88.79	16.33	1,450.39
1967	3,362.21	70.00	48.03	17.01	816.96
1968	20,172.86	70.00	288.18	17.70	5,100.38

FE 2025 Study - Metropolitan Edison
Electric Division
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1969	12,247.51	70.00	174.96	18.39	3,218.00
1970	4,401.53	70.00	62.88	19.10	1,201.01
1971	13,293.91	70.00	189.91	19.81	3,763.05
1972	7,866.02	70.00	112.37	20.54	2,308.39
1973	1,303.64	70.00	18.62	21.28	396.27
1975	8,411.64	70.00	120.17	22.78	2,737.92
1976	4,114.43	70.00	58.78	23.55	1,384.30
1979	786.81	70.00	11.24	25.93	291.41
1981	405.12	70.00	5.79	27.56	159.48
1982	99.84	70.00	1.43	28.39	40.50
1983	1,134.79	70.00	16.21	29.23	473.90
1984	7,489.65	70.00	106.99	30.09	3,219.16
1985	1,562.21	70.00	22.32	30.95	690.66
1986	26.54	70.00	0.38	31.82	12.06
1988	0.04	70.00	0.00	33.58	0.02
1989	7.31	70.00	0.10	34.48	3.60
1993	814.09	70.00	11.63	38.14	443.59
1998	52,089.19	70.00	744.13	42.86	31,890.31
2008	4,000.78	70.00	57.15	52.59	3,005.53
2016	66,137.05	70.00	944.81	60.52	57,180.19
2018	1,125.43	70.00	16.08	62.51	1,005.05
2019	81,631.95	70.00	1,166.17	63.51	74,063.47
2020	19,044.41	70.00	272.06	64.51	17,550.12
2021	8.00	70.00	0.11	65.51	7.49
2023	30.53	70.00	0.44	67.50	29.44

FE 2025 Study - Metropolitan Edison
Electric Division
365.11 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	429,030.41	70.00	6,128.98	37.48	229,706.66

Composite Average Remaining Life ... 37.48 Years

FE 2025 Study - Metropolitan Edison
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	812,660.67	65.00	12,502.34	13.85	173,211.79
1946	11,481.88	65.00	176.64	14.91	2,633.26
1948	16,519.99	65.00	254.15	15.64	3,975.26
1949	40,112.04	65.00	617.10	16.02	9,885.27
1950	39,793.91	65.00	612.21	16.40	10,041.92
1951	62,754.10	65.00	965.44	16.79	16,213.86
1952	99,859.43	65.00	1,536.28	17.19	26,413.37
1953	38,846.78	65.00	597.64	17.60	10,517.90
1954	192,246.43	65.00	2,957.61	18.01	53,276.15
1955	135,726.49	65.00	2,088.08	18.44	38,493.91
1956	145,856.92	65.00	2,243.93	18.86	42,330.28
1957	142,047.37	65.00	2,185.32	19.30	42,181.19
1958	151,043.20	65.00	2,323.72	19.75	45,886.48
1959	94,534.84	65.00	1,454.37	20.20	29,379.47
1960	115,227.74	65.00	1,772.72	20.66	36,627.33
1961	138,501.46	65.00	2,130.77	21.13	45,027.12
1962	131,123.44	65.00	2,017.26	21.61	43,590.31
1963	106,501.00	65.00	1,638.46	22.10	36,202.06
1964	89,303.38	65.00	1,373.88	22.59	31,033.15
1965	192,759.46	65.00	2,965.50	23.09	68,475.70
1966	314,916.78	65.00	4,844.82	23.60	114,334.76
1967	813,948.83	65.00	12,522.16	24.12	302,015.30
1968	337,500.36	65.00	5,192.26	24.64	127,961.96
1969	375,996.66	65.00	5,784.50	25.18	145,641.20
1970	397,289.10	65.00	6,112.08	25.72	157,202.52
1971	484,936.05	65.00	7,460.48	26.27	195,975.26
1972	712,692.57	65.00	10,964.39	26.83	294,133.25

FE 2025 Study - Metropolitan Edison
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1973	1,247,728.60	65.00	19,195.62	27.39	525,764.88
1974	548,968.59	65.00	8,445.58	27.96	236,163.03
1975	324,790.36	65.00	4,996.72	28.54	142,612.83
1976	198,566.08	65.00	3,054.83	29.13	88,985.09
1977	318,411.98	65.00	4,898.59	29.72	145,596.52
1978	375,987.74	65.00	5,784.37	30.32	175,409.07
1979	368,875.89	65.00	5,674.95	30.93	175,534.95
1980	358,492.35	65.00	5,515.21	31.55	173,995.10
1981	344,878.84	65.00	5,305.77	32.17	170,691.28
1982	258,271.11	65.00	3,973.36	32.80	130,322.38
1983	409,913.45	65.00	6,306.30	33.44	210,851.76
1985	858,211.76	65.00	13,203.12	34.73	458,482.69
1986	1,080,310.11	65.00	16,619.98	35.38	587,997.19
1988	1,275,732.42	65.00	19,626.45	36.71	720,410.66
1989	1,024,705.32	65.00	15,764.53	37.38	589,273.57
1991	1,542,593.00	65.00	23,731.95	38.74	919,420.28
1992	1,098,095.22	65.00	16,893.60	39.43	666,114.24
1994	709,687.42	65.00	10,918.15	40.83	445,749.31
1995	994,720.35	65.00	15,303.23	41.53	635,558.21
1996	386,759.14	65.00	5,950.08	42.24	251,340.79
1997	752,540.26	65.00	11,577.42	42.96	497,317.78
1998	1,286,137.91	65.00	19,786.53	43.68	864,198.00
1999	796,839.79	65.00	12,258.95	44.40	544,290.98
2000	1,381,842.30	65.00	21,258.89	45.13	959,389.38
2001	2,612,225.64	65.00	40,187.67	45.86	1,843,045.28
2002	1,968,670.79	65.00	30,286.93	46.60	1,411,338.70
2003	652,712.88	65.00	10,041.63	47.34	475,363.70

FE 2025 Study - Metropolitan Edison
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	86,947.20	65.00	1,337.64	48.09	64,320.77
2005	30,813.79	65.00	474.05	48.83	23,149.73
2006	6,229.58	65.00	95.84	49.59	4,752.41
2007	24,933.82	65.00	383.59	50.34	19,311.86
2008	142,291.89	65.00	2,189.08	51.10	111,872.33
2009	4,496.65	65.00	69.18	51.87	3,588.24
2010	47,059.64	65.00	723.99	52.64	38,108.15
2011	57,120.94	65.00	878.77	53.41	46,934.05
2012	247,776.29	65.00	3,811.90	54.18	206,540.53
2013	164,035.07	65.00	2,523.59	54.96	138,702.66
2014	129,141.13	65.00	1,986.77	55.74	110,750.60
2015	452,668.25	65.00	6,964.05	56.53	393,684.13
2016	529,623.67	65.00	8,147.97	57.32	467,039.83
2017	598,220.64	65.00	9,203.30	58.11	534,838.49
2018	685,357.52	65.00	10,543.85	58.91	621,135.99
2019	738,277.13	65.00	11,357.99	59.71	678,197.61
2020	465,043.77	65.00	7,154.45	60.52	432,953.97
2021	564,016.12	65.00	8,677.08	61.32	532,101.09
2022	652,769.79	65.00	10,042.51	62.13	623,982.24
2023	461,706.52	65.00	7,103.10	62.95	447,128.47
Total	35,459,379.59	65.00	545,523.23	39.68	21,646,970.80

Composite Average Remaining Life ... 39.68 Years

FE 2025 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1944	5,031.85	50.00	100.64	3.06	308.01
1945	113,714.50	50.00	2,274.28	3.34	7,606.88
1947	9,046.52	50.00	180.93	3.92	708.91
1948	12,337.66	50.00	246.75	4.21	1,037.98
1949	44,597.87	50.00	891.95	4.50	4,009.94
1950	31,563.68	50.00	631.27	4.79	3,020.88
1951	26,528.72	50.00	530.57	5.08	2,693.02
1958	756.70	50.00	15.13	7.15	108.28
1959	65.40	50.00	1.31	7.47	9.77
1960	266.87	50.00	5.34	7.78	41.54
1962	66.18	50.00	1.32	8.44	11.16
1963	674.77	50.00	13.50	8.77	118.39
1964	510.98	50.00	10.22	9.12	93.19
1965	63,098.32	50.00	1,261.96	9.47	11,955.35
1966	65,540.08	50.00	1,310.80	9.84	12,895.45
1967	145,858.36	50.00	2,917.16	10.21	29,789.89
1968	160,564.38	50.00	3,211.27	10.60	34,027.66
1969	150,293.62	50.00	3,005.86	10.99	33,038.21
1970	209,918.16	50.00	4,198.35	11.40	47,849.11
1971	445,771.15	50.00	8,915.39	11.81	105,328.07
1972	439,949.00	50.00	8,798.94	12.24	107,722.37
1973	612,312.50	50.00	12,246.20	12.68	155,314.79
1974	682,068.94	50.00	13,641.32	13.13	179,171.45
1975	389,349.02	50.00	7,786.95	13.60	105,887.41
1976	467,247.50	50.00	9,344.91	14.07	131,516.21
1977	605,012.75	50.00	12,100.21	14.56	176,191.09
1978	604,261.72	50.00	12,085.19	15.06	182,007.54

FE 2025 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1979	752,254.74	50.00	15,045.03	15.57	234,276.81
1980	663,102.59	50.00	13,262.00	16.09	213,450.60
1981	609,286.08	50.00	12,185.67	16.63	202,646.92
1982	676,185.94	50.00	13,523.66	17.18	232,291.97
1983	807,150.87	50.00	16,142.95	17.74	286,296.96
1984	1,040,503.74	50.00	20,809.99	18.31	380,927.41
1985	2,012,322.96	50.00	40,246.30	18.89	760,104.61
1986	2,533,614.02	50.00	50,672.07	19.48	987,034.29
1987	3,033,764.04	50.00	60,675.03	20.08	1,218,504.87
1988	3,383,776.38	50.00	67,675.25	20.70	1,400,675.28
1989	4,101,039.59	50.00	82,020.46	21.32	1,748,863.35
1990	5,480,950.31	50.00	109,618.56	21.96	2,407,017.29
1991	6,215,175.98	50.00	124,303.01	22.60	2,809,788.30
1992	4,368,171.68	50.00	87,363.08	23.26	2,032,132.97
1993	3,754,284.32	50.00	75,085.38	23.93	1,796,584.50
1994	4,793,148.18	50.00	95,862.57	24.60	2,358,555.47
1995	4,233,847.23	50.00	84,676.60	25.29	2,141,424.06
1996	2,275,746.54	50.00	45,514.75	25.98	1,182,693.58
1997	4,378,395.41	50.00	87,567.55	26.69	2,337,137.50
1998	7,321,447.60	50.00	146,428.36	27.40	4,012,625.95
1999	4,345,722.50	50.00	86,914.10	28.13	2,444,552.61
2000	4,312,448.90	50.00	86,248.63	28.86	2,488,927.21
2001	4,940,377.41	50.00	98,807.15	29.60	2,924,463.35
2002	4,220,970.53	50.00	84,419.07	30.35	2,561,800.54
2003	5,938,518.86	50.00	118,769.89	31.10	3,694,105.44
2004	8,308,973.77	50.00	166,178.80	31.87	5,295,781.47
2005	8,848,510.86	50.00	176,969.50	32.64	5,776,437.26

FE 2025 Study - Metropolitan Edison
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	14,298,120.44	50.00	285,961.25	33.42	9,557,272.41
2007	8,179,637.99	50.00	163,592.10	34.21	5,596,473.66
2008	7,135,338.42	50.00	142,706.19	35.01	4,995,545.10
2009	6,614,157.96	50.00	132,282.62	35.81	4,736,914.64
2010	8,306,062.77	50.00	166,120.58	36.62	6,083,255.29
2011	8,155,219.49	50.00	163,103.73	37.44	6,106,125.69
2012	12,615,403.04	50.00	252,307.04	38.26	9,653,662.24
2013	11,888,013.72	50.00	237,759.31	39.09	9,294,692.12
2014	12,409,130.42	50.00	248,181.60	39.93	9,910,095.29
2015	15,091,711.67	50.00	301,833.01	40.78	12,307,333.04
2016	14,067,938.41	50.00	281,357.63	41.63	11,711,837.04
2017	12,797,700.21	50.00	255,952.96	42.48	10,873,716.27
2018	13,475,983.63	50.00	269,518.58	43.35	11,682,674.93
2019	10,393,765.87	50.00	207,874.47	44.22	9,191,295.44
2020	13,639,247.26	50.00	272,783.84	45.09	12,299,977.81
2021	12,865,322.49	50.00	257,305.40	45.97	11,828,635.86
2022	11,825,891.27	50.00	236,516.86	46.86	11,082,550.16
2023	12,880,460.40	50.00	257,608.16	47.75	12,300,494.90
2024	15,721,922.74	50.00	314,437.18	48.65	15,295,986.60
2025	15,058,673.03	50.00	301,172.24	49.55	14,922,311.08
Total	346,055,799.46	50.00	6,921,087.88	36.80	254,692,412.68

Composite Average Remaining Life ... 36.80 Years

FE 2025 Study - Metropolitan Edison
Electric Division
367.10 Underground Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	190,491.79	50.00	3,809.82	31.10	118,497.01
2008	2,556.67	50.00	51.13	35.01	1,789.96
2011	76,119.41	50.00	1,522.38	37.44	56,993.52
2012	452,100.91	50.00	9,041.98	38.26	345,960.37
2013	183,392.81	50.00	3,667.84	39.09	143,386.42
2014	271,554.50	50.00	5,431.07	39.93	216,867.01
2018	62,756.59	50.00	1,255.13	43.35	54,405.29
2019	0.02	50.00	0.00	44.22	0.02
2022	216,849.93	50.00	4,336.98	46.86	203,219.37
2023	80,721.38	50.00	1,614.42	47.75	77,086.76
Total	1,536,544.01	50.00	30,730.76	39.64	1,218,205.73

Composite Average Remaining Life ... 39.64 Years

FE 2025 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1968	990,730.04	43.00	23,039.89	8.20	189,013.34
1969	1,007,336.76	43.00	23,426.09	8.53	199,716.55
1970	1,460,334.10	43.00	33,960.75	8.86	300,760.46
1971	1,351,706.04	43.00	31,434.56	9.20	289,042.88
1972	2,010,664.40	43.00	46,758.94	9.54	446,150.26
1973	2,689,439.09	43.00	62,544.16	9.90	619,065.28
1974	3,074,856.95	43.00	71,507.24	10.26	733,978.64
1975	1,044,606.67	43.00	24,292.82	10.64	258,488.93
1976	1,528,259.28	43.00	35,540.38	11.03	391,928.29
1977	2,487,293.97	43.00	57,843.18	11.43	660,905.82
1978	3,395,680.78	43.00	78,968.14	11.84	934,623.39
1979	2,911,002.22	43.00	67,696.72	12.26	829,732.20
1980	2,150,110.79	43.00	50,001.83	12.69	634,497.60
1981	2,012,134.26	43.00	46,793.12	13.13	614,622.44
1982	2,402,437.86	43.00	55,869.82	13.59	759,384.63
1983	2,931,751.42	43.00	68,179.25	14.06	958,680.74
1984	4,855,764.78	43.00	112,923.08	14.54	1,642,163.54
1985	3,915,189.62	43.00	91,049.57	15.04	1,369,125.99
1986	6,254,142.28	43.00	145,443.00	15.54	2,260,600.88
1987	6,794,074.19	43.00	157,999.37	16.06	2,537,534.15
1988	7,736,601.09	43.00	179,918.28	16.59	2,985,136.91
1989	7,545,532.01	43.00	175,474.88	17.13	3,006,455.34
1990	7,781,423.09	43.00	180,960.63	17.69	3,200,525.04
1991	6,298,971.73	43.00	146,485.53	18.25	2,673,748.98
1992	4,951,868.97	43.00	115,158.03	18.83	2,168,290.99
1993	6,240,153.87	43.00	145,117.70	19.42	2,817,587.26
1994	6,623,166.20	43.00	154,024.83	20.02	3,082,894.57

FE 2025 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 43 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1995	6,540,183.44	43.00	152,095.02	20.62	3,136,880.50
1996	5,033,892.25	43.00	117,065.52	21.24	2,486,887.87
1997	6,529,434.66	43.00	151,845.06	21.87	3,321,529.38
1998	6,145,126.51	43.00	142,907.79	22.51	3,217,415.14
1999	6,147,477.15	43.00	142,962.46	23.16	3,311,408.10
2000	9,286,398.23	43.00	215,959.53	23.82	5,144,702.65
2001	10,572,431.80	43.00	245,866.85	24.49	6,021,309.49
2002	9,127,121.03	43.00	212,255.47	25.17	5,341,680.13
2003	11,156,028.67	43.00	259,438.66	25.85	6,707,089.62
2004	19,659,607.38	43.00	457,193.36	26.55	12,136,402.31
2005	26,387,253.95	43.00	613,647.93	27.25	16,719,618.87
2006	20,158,629.16	43.00	468,798.35	27.96	13,105,686.13
2007	24,773,696.28	43.00	576,123.89	28.67	16,518,566.06
2008	21,276,037.18	43.00	494,784.19	29.39	14,544,029.86
2009	19,830,772.17	43.00	461,173.88	30.13	13,892,988.61
2010	13,882,062.47	43.00	322,833.85	30.86	9,963,125.60
2011	9,248,610.64	43.00	215,080.77	31.60	6,797,341.45
2012	13,006,511.54	43.00	302,472.51	32.35	9,785,816.88
2013	10,408,989.14	43.00	242,065.91	33.11	8,014,048.94
2014	9,295,565.06	43.00	216,172.71	33.87	7,321,011.45
2015	11,112,995.10	43.00	258,437.90	34.63	8,950,346.68
2016	9,441,899.38	43.00	219,575.79	35.40	7,773,731.32
2017	10,135,391.46	43.00	235,703.27	36.18	8,527,672.13
2018	13,928,151.40	43.00	323,905.67	36.96	11,972,272.40
2019	16,353,819.79	43.00	380,315.73	37.75	14,356,791.29
2020	17,016,783.22	43.00	395,733.25	38.54	15,252,509.13
2021	13,858,415.65	43.00	322,283.94	39.34	12,679,052.87

FE 2025 Study - Metropolitan Edison
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2022	16,930,646.12	43.00	393,730.09	40.15	15,806,296.75
2023	18,357,391.42	43.00	426,909.72	40.95	17,483,653.62
2024	17,367,220.71	43.00	403,882.84	41.77	16,869,757.43
2025	16,041,637.59	43.00	373,055.78	42.59	15,887,992.61
Total	521,455,413.01	43.00	12,126,689.48	28.83	349,612,270.35

Composite Average Remaining Life ... 28.83 Years

FE 2025 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1950	3,178.40	44.00	72.23	4.14	299.02
1951	6,363.17	44.00	144.61	4.43	641.12
1952	14,276.97	44.00	324.47	4.74	1,536.96
1953	31,772.36	44.00	722.08	5.04	3,642.65
1954	44,196.93	44.00	1,004.45	5.36	5,380.75
1955	59,477.75	44.00	1,351.73	5.67	7,662.19
1956	74,386.37	44.00	1,690.56	5.99	10,126.05
1957	82,533.69	44.00	1,875.72	6.32	11,847.65
1958	93,517.76	44.00	2,125.35	6.65	14,123.14
1959	100,956.86	44.00	2,294.42	6.98	16,018.68
1960	120,808.61	44.00	2,745.58	7.32	20,107.76
1961	127,055.83	44.00	2,887.56	7.67	22,151.47
1962	129,773.23	44.00	2,949.32	8.02	23,660.50
1963	150,300.51	44.00	3,415.84	8.38	28,627.95
1964	172,224.25	44.00	3,914.09	8.75	34,230.28
1965	214,637.50	44.00	4,878.00	9.11	44,461.32
1966	272,085.51	44.00	6,183.61	9.49	58,686.55
1967	333,931.04	44.00	7,589.15	9.87	74,926.41
1968	390,416.18	44.00	8,872.87	10.26	91,046.16
1969	418,181.83	44.00	9,503.90	10.66	101,265.74
1970	437,379.17	44.00	9,940.19	11.06	109,899.45
1971	435,952.11	44.00	9,907.76	11.46	113,577.24
1972	462,347.64	44.00	10,507.64	11.88	124,803.83
1973	543,808.04	44.00	12,358.97	12.30	151,990.37
1974	513,896.15	44.00	11,679.17	12.73	148,623.05
1975	461,573.87	44.00	10,490.05	13.16	138,047.86
1976	540,823.32	44.00	12,291.13	13.60	167,174.85

FE 2025 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1977	586,733.45	44.00	13,334.52	14.05	187,352.27
1978	692,090.29	44.00	15,728.93	14.51	228,164.48
1979	740,032.97	44.00	16,818.51	14.97	251,759.40
1980	749,813.82	44.00	17,040.80	15.44	263,115.41
1981	775,939.75	44.00	17,634.56	15.92	280,717.63
1982	788,943.32	44.00	17,930.08	16.40	294,132.98
1983	770,895.21	44.00	17,519.91	16.90	296,049.15
1984	744,463.11	44.00	16,919.19	17.40	294,393.87
1985	791,385.61	44.00	17,985.59	17.91	322,108.02
1986	869,801.97	44.00	19,767.73	18.43	364,244.57
1987	1,018,949.32	44.00	23,157.36	18.95	438,875.74
1988	1,135,333.76	44.00	25,802.40	19.48	502,758.81
1989	1,685,065.06	44.00	38,295.98	20.03	766,909.76
1990	1,598,842.67	44.00	36,336.43	20.57	747,605.44
1991	1,317,853.64	44.00	29,950.47	21.13	632,918.63
1992	1,163,588.78	44.00	26,444.54	21.70	573,764.04
1993	1,233,710.25	44.00	28,038.17	22.27	624,388.95
1994	1,760,346.51	44.00	40,006.88	22.85	914,124.75
1995	1,989,810.77	44.00	45,221.85	23.44	1,059,909.25
1996	2,556,780.98	44.00	58,107.21	24.03	1,396,506.06
1997	2,230,721.52	44.00	50,696.95	24.64	1,248,956.44
1998	2,325,781.04	44.00	52,857.34	25.25	1,334,395.05
1999	1,852,970.57	44.00	42,111.92	25.86	1,089,143.45
2000	1,415,274.29	44.00	32,164.52	26.49	851,925.27
2001	2,158,381.42	44.00	49,052.90	27.12	1,330,132.10
2002	1,990,937.68	44.00	45,247.46	27.75	1,255,765.86
2003	887,290.95	44.00	20,165.20	28.40	572,601.12

FE 2025 Study - Metropolitan Edison
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	66,376.94	44.00	1,508.53	29.04	43,812.62
2005	627.27	44.00	14.26	29.70	423.34
2006	1,495,860.00	44.00	33,995.97	30.36	1,031,960.78
2007	1,248,252.50	44.00	28,368.67	31.02	879,950.45
2008	2,258,962.05	44.00	51,338.77	31.69	1,626,706.40
2009	4,320,041.46	44.00	98,180.32	32.36	3,176,903.12
2010	1,862,147.40	44.00	42,320.48	33.03	1,397,987.71
2011	1,677,740.66	44.00	38,129.52	33.71	1,285,438.82
2012	3,326,365.44	44.00	75,597.33	34.39	2,600,160.71
2013	2,490,587.83	44.00	56,602.86	35.08	1,985,705.60
2014	2,726,098.20	44.00	61,955.24	35.77	2,216,184.94
2015	2,816,678.22	44.00	64,013.82	36.46	2,334,174.09
2016	2,073,600.43	44.00	47,126.11	37.16	1,751,211.41
2017	1,833,744.23	44.00	41,674.97	37.86	1,577,873.30
2018	2,766,508.32	44.00	62,873.62	38.57	2,424,795.26
2019	4,508,348.86	44.00	102,459.92	39.28	4,024,126.94
2020	3,726,182.29	44.00	84,683.85	39.99	3,386,375.24
2021	4,224,350.85	44.00	96,005.58	40.71	3,908,141.21
2022	6,170,958.27	44.00	140,245.56	41.43	5,810,422.66
2023	3,430,977.64	44.00	77,974.82	42.16	3,287,270.58
2024	1,072,856.63	44.00	24,382.50	42.89	1,045,807.88
2025	1,263,729.58	44.00	28,720.41	43.63	1,253,071.63
Total	97,428,588.83	44.00	2,214,230.99	30.12	66,695,782.21

Composite Average Remaining Life ... 30.12 Years

FE 2025 Study - Metropolitan Edison
Electric Division
369.10 Underground Services
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1956	4,645.05	60.00	77.42	8.33	644.97
1957	9,284.40	60.00	154.74	8.67	1,341.26
1958	6,720.49	60.00	112.01	9.02	1,010.26
1959	9,434.45	60.00	157.24	9.38	1,475.28
1960	10,447.20	60.00	174.12	9.76	1,699.39
1961	7,970.39	60.00	132.84	10.15	1,348.62
1962	11,208.16	60.00	186.80	10.56	1,972.47
1963	8,580.03	60.00	143.00	10.98	1,570.42
1964	17,246.36	60.00	287.44	11.42	3,282.61
1965	58,402.02	60.00	973.37	11.87	11,556.84
1966	72,713.94	60.00	1,211.90	12.34	14,959.00
1967	82,651.71	60.00	1,377.53	12.83	17,672.71
1968	149,924.70	60.00	2,498.75	13.33	33,306.94
1969	150,378.73	60.00	2,506.31	13.85	34,706.76
1970	165,513.82	60.00	2,758.57	14.38	39,662.39
1971	185,954.85	60.00	3,099.25	14.93	46,266.21
1972	275,033.84	60.00	4,583.90	15.49	71,018.29
1973	439,419.02	60.00	7,323.66	16.07	117,705.31
1974	407,244.62	60.00	6,787.41	16.66	113,102.98
1975	415,788.13	60.00	6,929.81	17.27	119,693.57
1976	451,734.20	60.00	7,528.91	17.89	134,697.32
1977	455,739.74	60.00	7,595.67	18.53	140,729.24
1978	634,633.88	60.00	10,577.24	19.18	202,836.17
1979	778,106.73	60.00	12,968.45	19.84	257,263.79
1980	700,657.81	60.00	11,677.64	20.51	239,499.11
1981	702,833.01	60.00	11,713.89	21.20	248,277.73
1982	640,250.79	60.00	10,670.85	21.89	233,573.32

FE 2025 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1983	787,475.81	60.00	13,124.61	22.60	296,593.74
1984	1,304,795.18	60.00	21,746.60	23.32	507,081.38
1985	1,671,567.36	60.00	27,859.47	24.05	669,936.54
1986	2,060,103.24	60.00	34,335.08	24.78	850,994.66
1987	2,378,586.84	60.00	39,643.14	25.54	1,012,291.40
1988	3,482,732.94	60.00	58,045.59	26.29	1,526,118.86
1989	4,747,792.54	60.00	79,129.93	27.06	2,141,387.22
1990	5,752,239.55	60.00	95,870.72	27.84	2,669,060.56
1991	5,351,575.92	60.00	89,192.99	28.63	2,553,349.67
1992	5,024,951.97	60.00	83,749.26	29.42	2,464,064.13
1993	5,326,604.95	60.00	88,776.81	30.23	2,683,471.59
1994	5,959,287.82	60.00	99,321.53	31.04	3,082,768.25
1995	4,854,872.11	60.00	80,914.59	31.86	2,578,023.87
1996	5,604,433.92	60.00	93,407.30	32.69	3,053,628.70
1997	4,820,046.35	60.00	80,334.16	33.53	2,693,576.99
1998	5,569,268.02	60.00	92,821.20	34.37	3,190,697.08
1999	5,800,198.56	60.00	96,670.04	35.23	3,405,591.76
2000	4,867,084.44	60.00	81,118.13	36.09	2,927,451.22
2001	6,577,388.79	60.00	109,623.22	36.96	4,051,531.02
2002	5,555,590.19	60.00	92,593.23	37.84	3,503,308.65
2003	2,570,996.58	60.00	42,849.97	38.72	1,659,106.01
2004	16,249.04	60.00	270.82	39.61	10,726.67
2006	2,169,818.48	60.00	36,163.67	41.41	1,497,472.93
2007	2,725,047.54	60.00	45,417.49	42.32	1,922,019.82
2008	2,214,733.27	60.00	36,912.25	43.24	1,595,914.02

FE 2025 Study - Metropolitan Edison
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	104,045,959.48	60.00	1,734,100.50	31.51	54,637,039.69

Composite Average Remaining Life ... *31.51 Years*

FE 2025 Study - Metropolitan Edison
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	13,353.82	15.00	890.25	2.92	2,602.07
2011	43.53	15.00	2.90	4.02	11.65
2013	59,105.62	15.00	3,940.37	4.92	19,367.30
2014	17,348.15	15.00	1,156.54	5.43	6,278.70
2015	1,484,088.98	15.00	98,939.27	5.99	592,918.18
2016	17,920,548.57	15.00	1,194,703.28	6.61	7,897,741.78
2017	26,943,514.90	15.00	1,796,234.40	7.29	13,086,990.48
2018	37,030,807.05	15.00	2,468,720.56	8.02	19,805,149.41
2019	28,077,702.59	15.00	1,871,846.91	8.82	16,509,008.85
2020	9,549,092.76	15.00	636,606.21	9.67	6,158,688.93
2021	8,015,962.94	15.00	534,397.55	10.58	5,654,659.10
2022	6,247,702.95	15.00	416,513.55	11.53	4,802,362.68
2023	6,176,653.27	15.00	411,776.90	12.51	5,150,182.68
2024	4,023,802.96	15.00	268,253.54	13.50	3,621,634.27
2025	4,441,716.11	15.00	296,114.42	14.50	4,293,660.55
Total	150,001,444.20	15.00	10,000,096.66	8.76	87,601,256.66

Composite Average Remaining Life ... 8.76 Years

FE 2025 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 37 **Survivor Curve:** R0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1962	10,202.86	37.00	275.74	4.82	1,328.43
1963	25,482.82	37.00	688.70	5.23	3,599.47
1964	11,474.02	37.00	310.10	5.63	1,746.14
1965	14,759.12	37.00	398.88	6.03	2,406.62
1966	8,124.17	37.00	219.56	6.43	1,411.99
1972	5,105.56	37.00	137.98	8.81	1,215.66
1973	7,103.35	37.00	191.98	9.21	1,768.27
1974	5,657.76	37.00	152.91	9.61	1,470.14
1975	2,541.90	37.00	68.70	10.02	688.46
1976	2,882.51	37.00	77.90	10.43	812.72
1977	3,877.42	37.00	104.79	10.85	1,136.65
1978	4,404.81	37.00	119.04	11.27	1,341.11
1979	7,011.71	37.00	189.50	11.69	2,215.05
1980	9,257.03	37.00	250.18	12.12	3,031.45
1981	12,981.04	37.00	350.83	12.55	4,402.93
1982	10,778.01	37.00	291.29	12.99	3,783.40
1983	10,838.83	37.00	292.93	13.43	3,934.77
1984	12,184.60	37.00	329.30	13.88	4,571.34
1985	17,559.46	37.00	474.56	14.34	6,803.90
1986	13,721.29	37.00	370.83	14.80	5,487.66
1987	11,695.15	37.00	316.07	15.27	4,825.03
1988	16,612.97	37.00	448.98	15.74	7,066.48
1989	45,370.25	37.00	1,226.18	16.22	19,886.32
1990	134,957.55	37.00	3,647.37	16.70	60,925.69
1991	172,319.99	37.00	4,657.12	17.20	80,084.52
1992	208,554.64	37.00	5,636.40	17.69	99,730.98
1993	349,788.74	37.00	9,453.40	18.20	172,041.25

FE 2025 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 37 **Survivor Curve:** R0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1994	132,074.29	37.00	3,569.44	18.71	66,783.77
1995	145,508.85	37.00	3,932.53	19.23	75,610.47
1996	137,371.20	37.00	3,712.60	19.75	73,323.11
1997	88,307.81	37.00	2,386.61	20.28	48,398.47
1998	287,514.97	37.00	7,770.39	20.81	161,735.53
1999	56,029.53	37.00	1,514.26	21.35	32,336.62
2000	49,930.73	37.00	1,349.43	21.90	29,554.43
2001	58,557.25	37.00	1,582.57	22.45	35,534.00
2002	29,852.70	37.00	806.80	23.01	18,564.37
2003	62,627.37	37.00	1,692.57	23.57	39,897.30
2004	267,338.60	37.00	7,225.10	24.14	174,404.97
2005	190,769.76	37.00	5,155.75	24.71	127,397.47
2006	223,633.90	37.00	6,043.93	25.28	152,818.41
2007	62,545.09	37.00	1,690.34	25.86	43,718.47
2008	92,123.82	37.00	2,489.74	26.45	65,843.91
2009	76,812.36	37.00	2,075.93	27.03	56,115.23
2010	134,109.47	37.00	3,624.45	27.62	100,106.89
2011	119,402.77	37.00	3,226.98	28.21	91,036.34
2012	181,541.12	37.00	4,906.33	28.80	141,323.36
2013	67,402.82	37.00	1,821.63	29.40	53,554.82
2014	95,644.23	37.00	2,584.88	30.00	77,537.77
2015	80,019.86	37.00	2,162.62	30.60	66,166.40
2016	52,661.88	37.00	1,423.24	31.20	44,399.18
2017	41,428.62	37.00	1,119.65	31.80	35,602.92
2018	29,164.15	37.00	788.19	32.40	25,539.33
2019	75,023.12	37.00	2,027.58	33.01	66,926.91
2020	62,807.30	37.00	1,697.43	33.62	57,061.96

FE 2025 Study - Metropolitan Edison
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *37* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	40,521.79	37.00	1,095.14	34.23	37,483.50
2022	59,068.17	37.00	1,596.38	34.84	55,617.11
2023	38,097.20	37.00	1,029.62	35.45	36,504.15
Total	4,173,138.29	37.00	112,783.33	22.95	2,588,613.57

Composite Average Remaining Life ... 22.95 Years

FE 2025 Study - Metropolitan Edison
Electric Division
371.21 Installations - Meter Socket Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	403,401.79	25.00	16,135.94	4.59	74,042.69
1998	8,805.95	25.00	352.24	4.94	1,741.73
Total	412,207.74	25.00	16,488.17	4.60	75,784.41

Composite Average Remaining Life ... 4.60 Years

FE 2025 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 28 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1943	19,365.26	0.00	0.00	0.00	0.00
1951	544.86	0.00	0.00	0.00	0.00
1952	2,573.54	0.00	0.00	0.00	0.00
1953	2,742.08	0.00	0.00	0.00	0.00
1954	5,766.34	0.00	0.00	0.00	0.00
1955	1,110.99	0.00	0.00	0.00	0.00
1956	1,772.37	0.00	0.00	0.00	0.00
1957	159.08	0.00	0.00	0.00	0.00
1958	5,219.85	0.00	0.00	0.00	0.00
1959	952.14	0.00	0.00	0.00	0.00
1960	8,779.47	0.00	0.00	0.00	0.00
1961	11,280.37	0.00	0.00	0.00	0.00
1962	3,678.46	0.00	0.00	0.00	0.00
1963	8,108.56	0.00	0.00	0.00	0.00
1964	15,292.30	0.00	0.00	0.00	0.00
1965	49,366.28	0.00	0.00	0.00	0.00
1966	8,007.00	0.00	0.00	0.00	0.00
1967	18,164.07	0.00	0.00	0.00	0.00
1968	30,908.38	0.00	0.00	0.00	0.00
1969	47,312.41	0.00	0.00	0.00	0.00
1970	22,421.14	28.00	800.72	0.50	400.36
1971	26,604.27	28.00	950.11	0.69	651.37
1972	24,109.61	28.00	861.02	0.97	838.52
1973	43,132.82	28.00	1,540.39	1.30	1,998.63
1974	11,882.70	28.00	424.36	1.62	688.06
1975	5,608.86	28.00	200.31	1.92	385.26
1976	6,884.65	28.00	245.87	2.22	545.97

FE 2025 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 28 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1977	10,098.45	28.00	360.64	2.51	905.69
1978	6,033.35	28.00	215.47	2.81	605.39
1979	5,003.59	28.00	178.69	3.11	555.53
1980	2,171.34	28.00	77.54	3.42	265.14
1981	1,660.52	28.00	59.30	3.73	221.38
1982	3,138.16	28.00	112.07	4.06	454.62
1983	1,825.21	28.00	65.18	4.39	286.13
1984	1,146.21	28.00	40.93	4.73	193.61
1985	3,271.89	28.00	116.85	5.08	593.60
1986	2,470.90	28.00	88.24	5.44	479.86
1987	3,323.91	28.00	118.71	5.81	689.17
1988	3,013.42	28.00	107.62	6.18	665.41
1989	2,228.25	28.00	79.58	6.57	522.81
1990	6,801.93	28.00	242.92	6.97	1,692.35
1991	11,655.73	28.00	416.26	7.37	3,069.37
1992	18,315.54	28.00	654.10	7.79	5,096.24
1993	52,854.73	28.00	1,887.59	8.22	15,514.93
1994	87,869.66	28.00	3,138.07	8.66	27,171.19
1995	34,459.87	28.00	1,230.66	9.11	11,210.30
1996	38,573.56	28.00	1,377.57	9.57	13,185.19
1997	67,916.42	28.00	2,425.48	10.05	24,364.03
1998	200,592.02	28.00	7,163.70	10.53	75,441.10
1999	527,914.63	28.00	18,853.30	11.03	207,928.06
2000	340,932.41	28.00	12,175.64	11.54	140,499.17
2001	461,195.41	28.00	16,470.57	12.06	198,672.20
2002	259,325.14	28.00	9,261.22	12.60	116,666.81
2003	333,895.40	28.00	11,924.33	13.15	156,749.24

FE 2025 Study - Metropolitan Edison
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *28* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	553,004.01	28.00	19,749.31	13.71	270,669.13
2005	430,816.24	28.00	15,385.64	14.28	219,677.14
2006	647,991.19	28.00	23,141.56	14.86	343,935.90
2007	270,292.45	28.00	9,652.89	15.46	149,224.51
2008	385,500.54	28.00	13,767.29	16.07	221,190.20
2009	416,285.04	28.00	14,866.69	16.69	248,059.23
2010	538,418.49	28.00	19,228.42	17.31	332,938.03
2011	886,152.88	28.00	31,646.98	17.95	568,173.80
2012	622,207.03	28.00	22,220.74	18.60	413,342.80
2013	791,848.09	28.00	28,279.09	19.26	544,585.93
2014	625,546.27	28.00	22,339.99	19.92	445,047.93
2015	656,912.94	28.00	23,460.18	20.59	483,095.88
2016	666,174.46	28.00	23,790.94	21.27	506,000.08
2017	837,162.21	28.00	29,897.39	21.95	656,274.13
2018	625,472.23	28.00	22,337.35	22.64	505,676.47
2019	734,631.61	28.00	26,235.73	23.33	612,115.19
2020	659,307.63	28.00	23,545.71	24.03	565,805.13
2021	473,453.63	28.00	16,908.34	24.74	418,241.37
2022	749,222.24	28.00	26,756.81	25.45	680,900.83
2023	1,080,401.24	28.00	38,584.13	26.17	1,009,658.55
2024	716,921.95	28.00	25,603.27	26.90	688,604.27
2025	512,643.07	28.00	18,307.91	27.63	505,852.08
Total	16,749,800.95	20.63	589,571.40	19.33	11,398,275.23

Composite Average Remaining Life ... 19.33 Years

FE 2025 Study - Metropolitan Edison
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *S0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	993.04	20.00	49.65	12.64	627.41
2016	140,741.67	20.00	7,036.96	13.20	92,875.10
2017	570,102.39	20.00	28,504.64	13.78	392,732.86
2018	617,504.48	20.00	30,874.70	14.38	443,965.11
2019	333,538.84	20.00	16,676.66	15.00	250,213.50
2020	511,223.76	20.00	25,560.75	15.66	400,170.33
2021	394,108.20	20.00	19,705.08	16.34	321,952.93
2022	122,475.69	20.00	6,123.68	17.06	104,462.31
2023	720,402.59	20.00	36,019.52	17.82	641,871.47
2024	391,291.39	20.00	19,564.24	18.64	364,615.26
2025	278,856.74	20.00	13,942.60	19.52	272,152.82
Total	4,081,238.79	20.00	204,058.48	16.10	3,285,639.07

Composite Average Remaining Life ... 16.10 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1904	69.28	75.00	0.92	1.30	1.20
1908	904.08	75.00	12.05	2.24	26.94
1921	26.62	75.00	0.35	5.49	1.95
1930	98.98	75.00	1.32	7.84	10.35
1931	608.47	75.00	8.11	8.12	65.87
1932	325.59	75.00	4.34	8.40	36.47
1940	105.63	75.00	1.41	10.88	15.32
1942	28.24	75.00	0.38	11.59	4.36
1943	1,423,322.28	75.00	18,977.63	11.96	226,963.04
1944	28,517.33	75.00	380.23	12.34	4,693.23
1945	80,533.28	75.00	1,073.78	12.74	13,678.34
1946	124,850.81	75.00	1,664.68	13.15	21,883.24
1947	151,003.07	75.00	2,013.37	13.56	27,310.30
1948	129,668.51	75.00	1,728.91	14.00	24,200.35
1949	122,814.60	75.00	1,637.53	14.44	23,648.06
1950	88,644.99	75.00	1,181.93	14.90	17,607.45
1951	155,766.99	75.00	2,076.89	15.37	31,919.27
1952	154,106.35	75.00	2,054.75	15.85	32,568.79
1953	199,396.55	75.00	2,658.62	16.34	43,452.83
1954	295,163.96	75.00	3,935.52	16.85	66,330.81
1955	235,325.32	75.00	3,137.67	17.37	54,513.95
1956	172,589.35	75.00	2,301.19	17.91	41,203.50
1957	170,890.22	75.00	2,278.54	18.45	42,046.81
1958	191,989.29	75.00	2,559.86	19.01	48,663.26
1959	220,233.48	75.00	2,936.45	19.58	57,489.84
1960	270,234.57	75.00	3,603.13	20.16	72,648.13
1961	309,027.67	75.00	4,120.37	20.75	85,517.53

FE 2025 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1962	206,758.28	75.00	2,756.78	21.36	58,878.36
1963	307,932.18	75.00	4,105.76	21.98	90,230.24
1964	223,083.10	75.00	2,974.44	22.60	67,229.51
1965	166,918.03	75.00	2,225.57	23.24	51,718.21
1966	173,075.94	75.00	2,307.68	23.89	55,128.10
1967	188,909.13	75.00	2,518.79	24.55	61,826.82
1968	168,064.11	75.00	2,240.85	25.21	56,497.87
1969	222,760.80	75.00	2,970.14	25.89	76,906.39
1970	188,958.54	75.00	2,519.45	26.58	66,965.70
1971	168,230.78	75.00	2,243.08	27.27	61,178.40
1972	290,535.79	75.00	3,873.81	27.98	108,398.08
1973	220,725.65	75.00	2,943.01	28.70	84,451.51
1974	244,817.66	75.00	3,264.24	29.42	96,023.37
1975	171,247.48	75.00	2,283.30	30.15	68,842.10
1976	188,859.28	75.00	2,518.12	30.89	77,781.67
1977	227,075.83	75.00	3,027.68	31.63	95,779.12
1978	364,445.89	75.00	4,859.28	32.39	157,400.94
1979	252,373.79	75.00	3,364.98	33.15	111,562.24
1980	202,123.51	75.00	2,694.98	33.92	91,421.27
1981	330,463.03	75.00	4,406.17	34.70	152,905.79
1982	233,683.70	75.00	3,115.78	35.49	110,569.64
1983	278,253.15	75.00	3,710.04	36.28	134,592.33
1984	354,912.95	75.00	4,732.17	37.08	175,464.60
1985	311,964.38	75.00	4,159.52	37.88	157,582.16
1986	348,843.52	75.00	4,651.25	38.70	179,987.01
1987	527,587.52	75.00	7,034.50	39.52	277,990.70
1988	405,974.09	75.00	5,412.99	40.34	218,382.02

FE 2025 Study - Pennsylvania Electric
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1989	396,839.13	75.00	5,291.19	41.18	217,869.98
1990	172,340.89	75.00	2,297.88	42.02	96,550.57
1991	234,417.50	75.00	3,125.57	42.86	133,969.92
1992	1,216,023.06	75.00	16,213.64	43.71	708,758.34
1993	664,913.91	75.00	8,865.52	44.57	395,168.60
1994	369,871.97	75.00	4,931.63	45.44	224,080.93
1995	103,931.62	75.00	1,385.75	46.31	64,170.01
1996	555,624.27	75.00	7,408.32	47.18	349,558.66
1997	87,911.67	75.00	1,172.16	48.07	56,340.84
1998	3,733.80	75.00	49.78	48.95	2,437.06
2003	251,087.08	75.00	3,347.83	53.47	179,010.29
2009	896.66	75.00	11.96	59.05	705.94
2010	1,582.81	75.00	21.10	59.99	1,266.04
2019	48,751.39	75.00	650.02	68.63	44,612.92
Total	15,602,749.38	75.00	208,036.64	30.56	6,356,695.44

Composite Average Remaining Life ... 30.56 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1892	7,169.17	0.00	0.00	0.00	0.00
1902	2,364.29	0.00	0.00	0.00	0.00
1904	239.19	0.00	0.00	0.00	0.00
1908	10,544.85	65.00	162.23	0.92	149.61
1912	2,248.26	65.00	34.59	1.91	66.06
1913	2,596.75	65.00	39.95	2.15	85.92
1914	173.47	65.00	2.67	2.44	6.51
1917	8,327.33	65.00	128.11	3.25	415.76
1920	55,609.31	65.00	855.53	4.03	3,444.33
1921	923.48	65.00	14.21	4.28	60.81
1922	18,077.12	65.00	278.11	4.51	1,253.06
1923	34,299.17	65.00	527.68	4.75	2,503.99
1924	38,724.87	65.00	595.77	4.96	2,953.80
1925	86,281.14	65.00	1,327.40	5.19	6,888.45
1926	31,648.83	65.00	486.90	5.40	2,627.41
1927	6,977.69	65.00	107.35	5.63	603.84
1928	6,232.99	65.00	95.89	5.83	559.15
1929	10,993.32	65.00	169.13	6.05	1,022.64
1930	14,216.74	65.00	218.72	6.27	1,371.81
1931	11,081.79	65.00	170.49	6.49	1,106.48
1932	1,533.52	65.00	23.59	6.72	158.54
1934	1,364.87	65.00	21.00	7.18	150.69
1935	1,636.36	65.00	25.17	7.40	186.37
1936	1,318.76	65.00	20.29	7.64	155.07
1937	4,801.48	65.00	73.87	7.87	581.70
1938	1,028.48	65.00	15.82	8.12	128.50
1939	156.58	65.00	2.41	8.36	20.14

FE 2025 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1940	1,251.81	65.00	19.26	8.61	165.88
1941	9,783.81	65.00	150.52	8.86	1,333.58
1942	34,681.75	65.00	533.56	9.12	4,863.79
1943	13,809.48	65.00	212.45	9.38	1,993.04
1944	6,560.56	65.00	100.93	9.65	973.85
1945	17,730.83	65.00	272.78	9.93	2,707.96
1946	27,966.29	65.00	430.25	10.21	4,392.52
1947	19,501.42	65.00	300.02	10.50	3,151.30
1948	52,319.79	65.00	804.92	10.80	8,695.57
1949	46,498.10	65.00	715.35	11.12	7,951.56
1950	31,527.74	65.00	485.04	11.44	5,546.53
1951	70,024.77	65.00	1,077.30	11.77	12,677.83
1952	93,312.16	65.00	1,435.57	12.11	17,385.07
1953	188,217.77	65.00	2,895.65	12.47	36,095.97
1954	110,311.16	65.00	1,697.09	12.83	21,777.30
1955	119,704.55	65.00	1,841.61	13.21	24,330.83
1956	41,160.18	65.00	633.23	13.60	8,614.42
1957	86,979.33	65.00	1,338.14	14.01	18,746.82
1958	140,316.85	65.00	2,158.72	14.43	31,145.18
1959	83,313.48	65.00	1,281.74	14.86	19,047.02
1960	161,436.04	65.00	2,483.63	15.30	38,011.10
1961	256,089.30	65.00	3,939.83	15.76	62,109.62
1962	233,668.08	65.00	3,594.89	16.24	58,364.75
1963	224,988.99	65.00	3,461.36	16.72	57,882.95
1964	388,332.24	65.00	5,974.33	17.22	102,876.90
1965	286,475.06	65.00	4,407.30	17.73	78,157.96
1966	275,951.71	65.00	4,245.41	18.26	77,507.24

FE 2025 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	255,891.09	65.00	3,936.78	18.80	73,998.91
1968	95,360.94	65.00	1,467.09	19.35	28,385.42
1969	47,197.47	65.00	726.11	19.91	14,456.88
1970	289,104.47	65.00	4,447.76	20.49	91,116.15
1971	30,522.29	65.00	469.57	21.07	9,894.50
1972	250,654.59	65.00	3,856.22	21.67	83,567.13
1973	398,277.61	65.00	6,127.34	22.28	136,508.61
1974	140,252.54	65.00	2,157.73	22.90	49,412.95
1975	296,917.30	65.00	4,567.95	23.53	107,482.39
1976	154,107.36	65.00	2,370.88	24.17	57,310.53
1977	100,661.85	65.00	1,548.64	24.82	38,440.62
1978	511,966.85	65.00	7,876.40	25.49	200,732.10
1979	404,758.61	65.00	6,227.05	26.15	162,861.70
1980	336,860.97	65.00	5,182.47	26.84	139,077.01
1981	1,114,692.06	65.00	17,149.09	27.53	472,044.49
1982	497,014.27	65.00	7,646.36	28.22	215,803.77
1983	74,631.73	65.00	1,148.18	28.93	33,217.54
1984	211,694.56	65.00	3,256.84	29.64	96,547.86
1985	138,746.44	65.00	2,134.56	30.37	64,824.73
1986	218,735.16	65.00	3,365.15	31.10	104,654.34
1987	119,475.35	65.00	1,838.08	31.84	58,524.67
1988	28,815.65	65.00	443.32	32.59	14,445.92
1989	112,823.93	65.00	1,735.75	33.34	57,873.81
1990	98,078.21	65.00	1,508.89	34.10	51,458.02
1991	73,176.37	65.00	1,125.79	34.87	39,261.23
1992	42,902.57	65.00	660.04	35.65	23,530.27
1993	232,516.46	65.00	3,577.17	36.44	130,336.46

FE 2025 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	42,136.30	65.00	648.25	37.23	24,132.65
1995	49,560.91	65.00	762.47	38.02	28,992.94
1996	218,719.08	65.00	3,364.90	38.83	130,660.42
1997	154,633.12	65.00	2,378.97	39.64	94,304.78
1998	283,036.80	65.00	4,354.41	40.46	176,178.85
2000	43,950.38	65.00	676.16	42.12	28,476.47
2001	10,510.94	65.00	161.71	42.95	6,945.45
2002	19,033.44	65.00	292.82	43.79	12,824.09
2004	2,799.50	65.00	43.07	45.50	1,959.57
2005	7,626.16	65.00	117.33	46.36	5,438.88
2006	422,118.63	65.00	6,494.12	47.22	306,679.06
2008	61,577.43	65.00	947.34	48.97	46,392.69
2009	158,716.23	65.00	2,441.78	49.85	121,730.68
2010	631,668.74	65.00	9,717.97	50.74	493,078.60
2011	617,548.58	65.00	9,500.73	51.63	490,527.28
2012	481,513.66	65.00	7,407.89	52.53	389,103.31
2013	655,530.75	65.00	10,085.08	53.43	538,808.20
2014	822,378.42	65.00	12,651.96	54.33	687,382.81
2015	473,685.29	65.00	7,287.46	55.24	402,555.67
2016	328,120.56	65.00	5,048.00	56.15	283,453.38
2017	131,195.49	65.00	2,018.39	57.07	115,187.46
2018	917,041.45	65.00	14,108.31	57.99	818,123.24
2019	273,349.51	65.00	4,205.37	58.91	247,753.52
2020	368,595.54	65.00	5,670.69	59.84	339,342.56
2021	470,033.31	65.00	7,231.27	60.77	439,460.13
2022	74,393.46	65.00	1,144.51	61.71	70,624.14
2023	976,314.74	65.00	15,020.21	62.64	940,921.69

FE 2025 Study - Pennsylvania Electric
Electric Division
361.00 Structures and Improvements

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	73,930.84	65.00	1,137.40	63.58	72,320.64
2025	70,093.45	65.00	1,078.36	64.53	69,583.54
Total	18,498,132.47	63.23	284,435.93	37.52	10,671,717.89

Composite Average Remaining Life ... 37.52 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
361.10 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	24,461.40	65.00	376.33	46.36	17,445.56
2008	112,008.89	65.00	1,723.21	48.97	84,387.95
2009	0.53	65.00	0.01	49.85	0.41
2010	83,034.47	65.00	1,277.45	50.74	64,816.44
2011	59,714.64	65.00	918.69	51.63	47,432.15
2013	108,511.05	65.00	1,669.40	53.43	89,189.78
2014	35,843.54	65.00	551.44	54.33	29,959.73
2016	1,536.11	65.00	23.63	56.15	1,327.00
2017	2,085.59	65.00	32.09	57.07	1,831.11
Total	427,196.22	65.00	6,572.24	51.18	336,390.14

Composite Average Remaining Life ... 51.18 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1912	7.76	62.00	0.13	3.68	0.46
1913	354.76	62.00	5.72	3.96	22.66
1914	88.56	62.00	1.43	4.23	6.05
1915	0.01	62.00	0.00	4.48	0.00
1916	45.55	62.00	0.73	4.72	3.47
1917	570.81	62.00	9.21	4.94	45.49
1918	1,083.77	62.00	17.48	5.16	90.25
1919	247.59	62.00	3.99	5.39	21.54
1920	2,164.78	62.00	34.92	5.61	196.01
1921	1,910.40	62.00	30.81	5.85	180.31
1922	4,677.43	62.00	75.44	6.08	458.39
1923	14,098.64	62.00	227.39	6.31	1,434.92
1924	13,405.71	62.00	216.22	6.56	1,418.11
1925	34,266.89	62.00	552.69	6.80	3,758.90
1926	167,943.77	62.00	2,708.74	7.05	19,103.04
1927	109,338.14	62.00	1,763.50	7.31	12,896.74
1928	4,835.76	62.00	78.00	7.57	590.60
1929	87,050.24	62.00	1,404.02	7.84	11,012.44
1930	37,498.26	62.00	604.80	8.11	4,904.85
1931	57,720.48	62.00	930.97	8.38	7,804.06
1932	49,799.76	62.00	803.21	8.66	6,958.85
1933	3,999.96	62.00	64.51	8.94	576.94
1934	582.74	62.00	9.40	9.23	86.77
1935	9,298.92	62.00	149.98	9.52	1,427.31
1936	21,027.11	62.00	339.14	9.81	3,325.93
1937	31,482.13	62.00	507.77	10.10	5,130.79
1938	11,650.17	62.00	187.90	10.40	1,954.38

FE 2025 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1939	7,481.46	62.00	120.67	10.71	1,291.93
1940	30,288.08	62.00	488.51	11.01	5,378.44
1941	84,673.97	62.00	1,365.69	11.32	15,458.10
1942	221,068.45	62.00	3,565.58	11.64	41,487.16
1943	109,709.35	62.00	1,769.49	11.95	21,150.47
1944	42,125.59	62.00	679.44	12.28	8,341.05
1945	101,335.68	62.00	1,634.43	12.61	20,604.67
1946	275,668.08	62.00	4,446.21	12.94	57,535.80
1947	141,048.39	62.00	2,274.95	13.28	30,216.14
1948	248,842.67	62.00	4,013.55	13.63	54,694.35
1949	655,607.28	62.00	10,574.20	13.98	147,825.42
1950	668,780.31	62.00	10,786.66	14.34	154,677.61
1951	965,368.58	62.00	15,570.29	14.71	228,966.95
1952	618,889.87	62.00	9,981.99	15.08	150,518.82
1953	1,831,075.42	62.00	29,533.15	15.46	456,554.76
1954	1,557,574.28	62.00	25,121.89	15.85	398,104.05
1955	1,423,511.95	62.00	22,959.62	16.24	372,920.99
1956	318,374.42	62.00	5,135.02	16.65	85,476.74
1957	1,316,134.72	62.00	21,227.75	17.06	362,087.34
1958	1,497,268.95	62.00	24,149.24	17.48	422,043.51
1959	1,209,424.91	62.00	19,506.64	17.90	349,252.43
1960	1,485,669.74	62.00	23,962.16	18.34	439,456.41
1961	2,394,156.41	62.00	38,615.01	18.78	725,354.48
1962	2,763,521.78	62.00	44,572.45	19.24	857,445.58
1963	2,228,626.27	62.00	35,945.20	19.70	708,034.77
1964	3,178,498.35	62.00	51,265.55	20.17	1,033,905.14
1965	2,577,956.01	62.00	41,579.48	20.64	858,392.33

FE 2025 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1966	2,215,680.59	62.00	35,736.40	21.13	755,178.74
1967	2,404,364.73	62.00	38,779.66	21.63	838,699.20
1968	1,321,460.18	62.00	21,313.64	22.13	471,666.70
1969	1,132,077.00	62.00	18,259.11	22.64	413,429.31
1970	3,307,680.19	62.00	53,349.10	23.16	1,235,623.69
1971	2,088,668.65	62.00	33,687.84	23.69	798,088.60
1972	2,511,719.48	62.00	40,511.17	24.23	981,505.14
1973	3,277,200.30	62.00	52,857.50	24.77	1,309,373.20
1974	2,423,197.76	62.00	39,083.41	25.33	989,815.46
1975	3,078,658.68	62.00	49,655.25	25.89	1,285,431.17
1976	2,115,214.62	62.00	34,116.00	26.46	902,546.79
1977	817,706.56	62.00	13,188.67	27.03	356,526.22
1978	3,869,192.90	62.00	62,405.66	27.62	1,723,389.88
1979	4,043,312.63	62.00	65,214.01	28.21	1,839,633.31
1980	1,964,495.15	62.00	31,685.06	28.81	912,825.57
1981	5,998,650.77	62.00	96,751.38	29.42	2,845,983.68
1982	4,547,378.96	62.00	73,344.03	30.03	2,202,568.88
1983	768,744.18	62.00	12,398.97	30.65	380,036.98
1984	2,291,582.51	62.00	36,960.61	31.28	1,156,146.51
1985	2,469,644.40	62.00	39,832.54	31.92	1,271,319.58
1986	4,114,141.85	62.00	66,356.41	32.56	2,160,421.19
1987	2,680,506.02	62.00	43,233.50	33.21	1,435,687.13
1988	1,715,955.83	62.00	27,676.41	33.86	937,222.67
1989	3,523,005.83	62.00	56,822.06	34.52	1,961,771.50
1990	2,235,895.76	62.00	36,062.44	35.19	1,269,169.24
1991	3,704,074.90	62.00	59,742.50	35.87	2,142,772.82
1992	3,105,764.74	62.00	50,092.44	36.55	1,830,781.18

FE 2025 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1993	4,432,757.40	62.00	71,495.31	37.23	2,662,097.90
1994	2,358,834.85	62.00	38,045.31	37.93	1,442,892.72
1995	3,010,388.99	62.00	48,554.13	38.62	1,875,340.74
1996	4,623,858.01	62.00	74,577.55	39.33	2,932,786.44
1997	6,663,791.07	62.00	107,479.34	40.03	4,302,864.33
1998	6,949,459.49	62.00	112,086.84	40.75	4,567,310.01
1999	962,400.04	62.00	15,522.41	41.47	643,641.66
2000	2,190,192.15	62.00	35,325.30	42.19	1,490,338.60
2001	6,484,366.15	62.00	104,585.42	42.92	4,488,337.64
2002	1,429,434.98	62.00	23,055.15	43.65	1,006,327.56
2003	1,001,956.58	62.00	16,160.41	44.39	717,293.75
2004	4,268,362.05	62.00	68,843.80	45.13	3,106,646.39
2005	3,592,134.27	62.00	57,937.02	45.87	2,657,680.73
2006	10,677,179.77	62.00	172,210.71	46.62	8,028,710.27
2007	5,699,448.31	62.00	91,925.59	47.37	4,354,900.11
2008	4,620,089.32	62.00	74,516.76	48.13	3,586,631.84
2009	6,114,639.52	62.00	98,622.15	48.89	4,821,845.71
2010	8,426,612.25	62.00	135,911.63	49.66	6,749,069.36
2011	21,546,838.60	62.00	347,525.89	50.43	17,524,654.91
2012	9,956,494.15	62.00	160,586.87	51.20	8,221,881.39
2013	9,169,690.50	62.00	147,896.63	51.98	7,687,071.73
2014	9,744,048.63	62.00	157,160.37	52.76	8,291,052.88
2015	8,132,808.23	62.00	131,172.90	53.54	7,023,024.99
2016	11,386,414.38	62.00	183,649.85	54.33	9,977,416.70
2017	9,749,677.11	62.00	157,251.15	55.12	8,667,605.35
2018	17,164,896.68	62.00	276,850.17	55.92	15,480,223.99
2019	13,012,676.95	62.00	209,879.61	56.71	11,903,313.17

FE 2025 Study - Pennsylvania Electric
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2020	13,453,243.84	62.00	216,985.45	57.52	12,480,463.58
2021	9,271,453.82	62.00	149,537.96	58.32	8,721,745.44
2022	13,091,596.56	62.00	211,152.49	59.13	12,486,364.41
2023	28,368,452.71	62.00	457,550.73	59.95	27,429,752.22
2024	39,778,088.96	62.00	641,575.13	60.77	38,986,723.69
2025	15,812,720.97	62.00	255,041.12	61.59	15,707,540.47
Total	415,488,813.53	62.00	6,701,359.83	46.64	312,521,749.74

Composite Average Remaining Life ... *46.64 Years*

FE 2025 Study - Pennsylvania Electric
Electric Division
362.10 Station Equipment - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *62* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	5,567.09	62.00	89.79	47.37	4,253.77
2008	3,999.55	62.00	64.51	48.13	3,104.90
2009	21,815.20	62.00	351.85	48.89	17,202.90
2010	875,111.94	62.00	14,114.56	49.66	700,897.47
2011	735,721.12	62.00	11,866.34	50.43	598,382.85
2012	333,588.49	62.00	5,380.40	51.20	275,470.96
2013	14,698.94	62.00	237.08	51.98	12,322.31
2014	293,116.37	62.00	4,727.63	52.76	249,407.96
2015	766,697.55	62.00	12,365.96	53.54	662,075.87
2016	563,892.27	62.00	9,094.94	54.33	494,114.12
2017	1,697,037.29	62.00	27,371.27	55.12	1,508,690.94
2018	3,058,803.21	62.00	49,335.00	55.92	2,758,592.71
2019	677,036.50	62.00	10,919.83	56.71	619,317.42
2020	1,061,153.73	62.00	17,115.20	57.52	984,423.58
2021	622,935.34	62.00	10,047.24	58.32	586,001.24
2022	605,741.20	62.00	9,769.91	59.13	577,737.43
2023	223,477.85	62.00	3,604.44	59.95	216,083.06
2024	26.33	62.00	0.42	60.77	25.81
Total	11,560,419.97	62.00	186,456.37	55.07	10,268,105.29

Composite Average Remaining Life ... 55.07 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	574,068.56	65.00	8,831.82	6.87	60,710.08
1944	83,602.23	65.00	1,286.19	7.15	9,191.91
1945	135,985.86	65.00	2,092.09	7.43	15,546.46
1946	245,019.82	65.00	3,769.54	7.72	29,086.93
1947	203,155.04	65.00	3,125.46	8.01	25,050.55
1948	355,240.85	65.00	5,465.24	8.32	45,453.08
1949	232,213.87	65.00	3,572.52	8.63	30,841.30
1950	524,174.04	65.00	8,064.22	8.95	72,212.65
1951	631,817.40	65.00	9,720.27	9.29	90,313.68
1952	776,261.75	65.00	11,942.49	9.64	115,079.24
1953	941,317.15	65.00	14,481.80	10.00	144,754.16
1954	1,153,942.76	65.00	17,752.97	10.37	184,027.21
1955	1,153,776.70	65.00	17,750.41	10.75	190,825.37
1956	979,515.43	65.00	15,069.47	11.15	167,999.46
1957	1,142,414.89	65.00	17,575.61	11.56	203,183.80
1958	1,167,808.97	65.00	17,966.29	11.99	215,344.48
1959	1,595,166.44	65.00	24,541.02	12.43	304,975.93
1960	1,866,791.80	65.00	28,719.87	12.88	369,943.50
1961	2,164,241.63	65.00	33,296.03	13.35	444,565.02
1962	1,893,138.99	65.00	29,125.22	13.83	402,936.38
1963	2,417,921.56	65.00	37,198.79	14.34	533,254.06
1964	2,058,635.91	65.00	31,671.32	14.85	470,217.16
1965	2,088,350.86	65.00	32,128.48	15.38	494,039.32
1966	2,154,795.69	65.00	33,150.70	15.92	527,657.61
1967	1,597,157.49	65.00	24,571.65	16.48	404,844.82
1968	1,555,120.02	65.00	23,924.92	17.05	407,862.51
1969	1,941,038.49	65.00	29,862.13	17.63	526,488.62

FE 2025 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	2,155,976.94	65.00	33,168.88	18.23	604,651.86
1971	2,181,213.86	65.00	33,557.14	18.84	632,172.89
1972	2,643,290.91	65.00	40,666.01	19.46	791,508.97
1973	2,912,100.81	65.00	44,801.55	20.10	900,410.76
1974	2,508,246.92	65.00	38,588.41	20.75	800,610.71
1975	1,582,850.39	65.00	24,351.54	21.41	521,247.97
1976	2,063,796.64	65.00	31,750.72	22.08	700,997.13
1977	2,319,181.14	65.00	35,679.71	22.76	812,002.77
1978	2,681,192.50	65.00	41,249.12	23.45	967,420.53
1979	3,086,770.06	65.00	47,488.77	24.15	1,147,048.19
1980	2,606,304.22	65.00	40,096.99	24.87	997,205.55
1981	4,995,690.90	65.00	76,856.78	25.59	1,967,068.42
1982	4,549,866.07	65.00	69,997.94	26.33	1,842,758.63
1983	5,140,445.35	65.00	79,083.78	27.07	2,140,731.73
1984	5,813,527.22	65.00	89,438.88	27.82	2,488,139.15
1985	6,585,219.48	65.00	101,311.07	28.58	2,895,566.08
1986	7,709,270.03	65.00	118,604.16	29.35	3,480,881.22
1987	9,922,796.27	65.00	152,658.41	30.13	4,599,246.76
1988	9,143,729.27	65.00	140,672.76	30.91	4,348,519.45
1989	9,186,531.37	65.00	141,331.25	31.71	4,481,341.40
1990	7,791,989.32	65.00	119,876.76	32.51	3,897,062.31
1991	14,843,101.14	65.00	228,355.40	33.32	7,609,000.14
1992	8,768,293.55	65.00	134,896.83	34.14	4,605,024.64
1993	23,358,493.37	65.00	359,361.44	34.96	12,565,071.72
1994	16,733,012.95	65.00	257,430.97	35.80	9,215,797.29
1995	20,855,429.37	65.00	320,852.76	36.64	11,755,842.81
1996	11,828,363.95	65.00	181,974.83	37.49	6,821,939.06

FE 2025 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	13,374,512.82	65.00	205,761.74	38.34	7,889,522.33
1998	20,826,651.68	65.00	320,410.03	39.21	12,562,101.95
1999	14,288,719.26	65.00	219,826.45	40.07	8,809,500.03
2000	12,515,033.21	65.00	192,538.97	40.95	7,884,832.18
2001	9,264,037.95	65.00	142,523.66	41.83	5,962,275.75
2002	3,968,232.15	65.00	61,049.73	42.72	2,608,274.37
2003	5,090,483.29	65.00	78,315.13	43.62	3,415,957.25
2004	7,892,295.33	65.00	121,419.93	44.52	5,405,699.04
2005	13,529,229.37	65.00	208,141.99	45.43	9,455,258.75
2006	12,668,997.44	65.00	194,907.66	46.34	9,032,258.18
2007	6,342,316.68	65.00	97,574.10	47.26	4,611,377.08
2008	16,136,176.08	65.00	248,248.87	48.18	11,961,573.39
2009	12,848,053.32	65.00	197,662.36	49.11	9,707,861.04
2010	14,820,981.89	65.00	228,015.11	50.05	11,411,443.33
2011	43,589,361.31	65.00	670,605.57	50.99	34,191,568.75
2012	17,532,531.81	65.00	269,731.26	51.93	14,006,822.29
2013	14,316,955.56	65.00	220,260.86	52.88	11,646,704.02
2014	14,330,821.26	65.00	220,474.18	53.83	11,867,664.43
2015	10,000,691.39	65.00	153,856.79	54.78	8,428,882.47
2016	14,917,428.08	65.00	229,498.90	55.74	12,792,847.64
2017	14,049,729.43	65.00	216,149.69	56.71	12,256,916.82
2018	17,004,060.62	65.00	261,600.94	57.67	15,086,784.04
2019	20,179,266.29	65.00	310,450.25	58.64	18,204,942.26
2020	30,874,375.59	65.00	474,990.40	59.61	28,315,318.58
2021	26,476,352.70	65.00	407,328.51	60.59	24,678,669.46
2022	29,357,485.22	65.00	451,653.62	61.56	27,805,504.62
2023	37,181,344.32	65.00	572,020.69	62.54	35,775,773.94

FE 2025 Study - Pennsylvania Electric
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	27,903,334.44	65.00	429,282.07	63.52	27,269,877.97
2025	37,449,991.31	65.00	576,153.72	64.51	37,166,240.04
Total	744,328,808.00	65.00	11,451,212.57	46.31	530,288,125.45

Composite Average Remaining Life ... 46.31 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
364.20 Poles, Towers, and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	68,211.88	65.00	1,049.41	46.34	48,631.10
2008	0.07	65.00	0.00	48.18	0.05
2010	74,507.26	65.00	1,146.27	50.05	57,367.01
2012	3,663.40	65.00	56.36	51.93	2,926.71
2014	4,504.10	65.00	69.29	53.83	3,729.94
2016	28,691.93	65.00	441.41	55.74	24,605.55
2017	20,670.33	65.00	318.01	56.71	18,032.70
2018	37,268.45	65.00	573.36	57.67	33,066.28
2019	23,813.55	65.00	366.36	58.64	21,483.65
2020	74,381.46	65.00	1,144.33	59.61	68,216.27
2021	56,283.61	65.00	865.90	60.59	52,462.08
2022	12,527.61	65.00	192.73	61.56	11,865.34
2023	131,372.43	65.00	2,021.11	62.54	126,406.14
Total	535,896.08	65.00	8,244.56	56.86	468,792.82

Composite Average Remaining Life ... 56.86 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	2,784,529.36	60.00	46,407.96	16.00	742,393.73
1944	13,987.58	60.00	233.12	16.41	3,824.64
1945	138,029.29	60.00	2,300.45	16.82	38,686.33
1946	345,950.43	60.00	5,765.73	17.23	99,348.03
1947	455,855.61	60.00	7,597.45	17.65	134,066.39
1948	395,119.83	60.00	6,585.21	18.06	118,958.70
1949	418,970.43	60.00	6,982.71	18.49	129,080.47
1950	381,832.53	60.00	6,363.76	18.91	120,338.22
1951	543,132.40	60.00	9,052.04	19.34	175,037.93
1952	508,907.82	60.00	8,481.64	19.77	167,657.09
1953	853,328.88	60.00	14,221.88	20.20	287,283.77
1954	1,407,548.83	60.00	23,458.71	20.64	484,105.48
1955	1,470,056.63	60.00	24,500.49	21.08	516,376.77
1956	1,012,654.93	60.00	16,877.27	21.52	363,185.19
1957	989,536.30	60.00	16,491.97	21.97	362,257.54
1958	971,012.31	60.00	16,183.24	22.42	362,755.23
1959	1,385,376.19	60.00	23,089.17	22.87	528,028.57
1960	1,690,207.83	60.00	28,169.61	23.33	657,092.59
1961	2,034,666.17	60.00	33,910.47	23.79	806,631.80
1962	2,384,480.95	60.00	39,740.61	24.25	963,764.92
1963	3,057,751.13	60.00	50,961.57	24.72	1,259,755.10
1964	2,923,212.95	60.00	48,719.31	25.19	1,227,323.06
1965	2,257,608.83	60.00	37,626.11	25.67	965,758.73
1966	2,877,329.90	60.00	47,954.61	26.15	1,253,868.90
1967	1,834,326.45	60.00	30,571.54	26.63	814,134.67
1968	1,681,613.68	60.00	28,026.37	27.12	760,004.74
1969	2,184,189.46	60.00	36,402.48	27.61	1,005,030.15

FE 2025 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	2,348,360.09	60.00	39,138.61	28.10	1,099,922.80
1971	2,658,134.57	60.00	44,301.42	28.60	1,267,133.86
1972	3,211,092.72	60.00	53,517.22	29.11	1,557,648.48
1973	3,535,611.26	60.00	58,925.76	29.61	1,744,925.68
1974	2,643,095.99	60.00	44,050.78	30.12	1,326,916.12
1975	1,684,316.63	60.00	28,071.42	30.64	860,024.16
1976	2,002,438.18	60.00	33,373.35	31.15	1,039,727.53
1977	2,319,022.30	60.00	38,649.65	31.68	1,224,296.21
1978	2,702,789.44	60.00	45,045.65	32.20	1,450,590.50
1979	3,337,193.84	60.00	55,618.86	32.73	1,820,521.59
1980	3,686,681.05	60.00	61,443.54	33.26	2,043,901.20
1981	7,111,034.42	60.00	118,515.04	33.80	4,005,994.11
1982	6,255,438.94	60.00	104,255.38	34.34	3,580,229.58
1983	6,081,721.69	60.00	101,360.14	34.89	3,535,950.82
1984	6,935,524.58	60.00	115,589.93	35.43	4,095,617.78
1985	8,488,897.35	60.00	141,478.99	35.98	5,090,800.82
1986	8,013,540.94	60.00	133,556.53	36.54	4,879,616.28
1987	11,289,801.54	60.00	188,159.86	37.09	6,979,411.04
1988	8,544,341.98	60.00	142,403.05	37.65	5,361,776.58
1989	8,914,345.36	60.00	148,569.66	38.22	5,677,648.36
1990	10,355,724.11	60.00	172,592.19	38.78	6,693,358.79
1991	18,198,945.88	60.00	303,310.13	39.35	11,935,226.55
1992	4,339,185.84	60.00	72,318.42	39.92	2,887,004.16
1993	19,066,221.19	60.00	317,764.45	40.49	12,867,772.22
1994	13,354,970.84	60.00	222,578.71	41.07	9,141,354.73
1995	15,207,270.67	60.00	253,449.80	41.65	10,555,960.51
1996	12,969,619.42	60.00	216,156.31	42.23	9,128,289.33

FE 2025 Study - Pennsylvania Electric
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	15,126,550.78	60.00	252,104.49	42.81	10,793,324.72
1998	12,137,495.08	60.00	202,287.83	43.40	8,778,759.37
1999	9,473,715.62	60.00	157,892.33	43.98	6,944,766.36
2000	10,685,265.32	60.00	178,084.45	44.57	7,937,583.37
2001	6,978,523.77	60.00	116,306.57	45.16	5,252,675.81
2002	6,453,783.19	60.00	107,561.05	45.75	4,921,347.56
2003	7,121,664.66	60.00	118,692.21	46.35	5,501,020.01
2004	12,479,425.16	60.00	207,986.55	46.94	9,763,074.08
2005	30,168,944.74	60.00	502,806.40	47.54	23,901,642.33
2006	32,287,077.92	60.00	538,107.96	48.13	25,900,531.38
2007	20,335,629.25	60.00	338,920.86	48.73	16,515,787.21
2008	35,594,093.80	60.00	593,223.87	49.33	29,263,354.47
2009	31,144,879.41	60.00	519,071.68	49.93	25,916,554.36
2010	30,726,558.52	60.00	512,099.79	50.53	25,876,243.31
2011	23,320,634.47	60.00	388,670.02	51.13	19,873,358.67
2012	24,740,276.93	60.00	412,330.29	51.73	21,331,596.16
2013	24,375,343.38	60.00	406,248.17	52.34	21,262,488.07
2014	24,195,777.96	60.00	403,255.47	52.94	21,350,027.60
2015	24,100,748.43	60.00	401,671.68	53.55	21,509,837.53
2016	24,986,226.13	60.00	416,429.36	54.16	22,553,150.86
2017	28,975,994.28	60.00	482,924.26	54.77	26,448,658.83
2018	30,815,206.39	60.00	513,577.23	55.38	28,440,730.19
2019	32,367,508.16	60.00	539,448.44	55.99	30,203,617.35
2020	39,942,781.31	60.00	665,700.65	56.60	37,680,764.20
2021	39,724,349.34	60.00	662,060.18	57.22	37,881,625.72
2022	41,571,760.05	60.00	692,849.79	57.83	40,069,967.01
2023	41,764,047.05	60.00	696,054.52	58.45	40,685,204.21

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Electric Division
365.00 Overhead Conductors and Devices

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	52,972,007.37	60.00	882,850.38	59.07	52,149,617.89
2025	53,272,346.60	60.00	887,855.94	59.69	52,996,362.26
Total	1,000,095,152.59	60.00	16,667,942.78	49.07	817,902,039.39

Composite Average Remaining Life ... 49.07 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	276,300.72	75.00	3,683.99	8.01	29,526.71
1944	20,486.86	75.00	273.16	8.36	2,283.29
1945	107,339.22	75.00	1,431.18	8.71	12,470.65
1946	210,713.68	75.00	2,809.50	9.09	25,525.57
1947	144,126.33	75.00	1,921.68	9.47	18,204.28
1948	166,991.30	75.00	2,226.54	9.88	21,997.47
1949	200,632.29	75.00	2,675.08	10.30	27,563.10
1950	135,824.68	75.00	1,810.99	10.75	19,461.41
1951	162,822.30	75.00	2,170.95	11.21	24,346.25
1952	195,558.90	75.00	2,607.44	11.70	30,506.86
1953	243,367.43	75.00	3,244.88	12.21	39,606.01
1954	377,075.82	75.00	5,027.65	12.74	64,055.27
1955	270,316.47	75.00	3,604.20	13.29	47,904.11
1956	233,666.88	75.00	3,115.54	13.86	43,185.91
1957	192,556.75	75.00	2,567.41	14.46	37,123.78
1958	227,254.01	75.00	3,030.04	15.07	45,663.19
1959	326,489.25	75.00	4,353.17	15.70	68,330.01
1960	336,506.34	75.00	4,486.73	16.34	73,335.25
1961	321,699.24	75.00	4,289.30	17.00	72,922.52
1962	163,406.12	75.00	2,178.74	17.67	38,493.17
1963	330,161.45	75.00	4,402.13	18.35	80,776.19
1964	196,609.42	75.00	2,621.45	19.04	49,901.81
1965	156,894.18	75.00	2,091.91	19.73	41,274.80
1966	137,118.43	75.00	1,828.24	20.44	37,367.79
1967	70,774.57	75.00	943.66	21.15	19,961.52
1968	102,298.42	75.00	1,363.97	21.88	29,838.61
1969	165,061.79	75.00	2,200.81	22.61	49,768.78

FE 2025 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	141,862.30	75.00	1,891.49	23.36	44,180.27
1971	156,090.82	75.00	2,081.20	24.11	50,178.08
1972	202,431.27	75.00	2,699.07	24.88	67,146.96
1973	262,565.44	75.00	3,500.86	25.65	89,802.91
1974	202,768.03	75.00	2,703.56	26.43	71,468.16
1975	121,236.63	75.00	1,616.48	27.23	44,020.93
1976	147,459.20	75.00	1,966.11	28.04	55,123.06
1977	153,514.20	75.00	2,046.85	28.85	59,050.62
1978	152,886.75	75.00	2,038.48	29.68	60,495.01
1979	138,237.00	75.00	1,843.15	30.51	56,233.68
1980	112,340.58	75.00	1,497.87	31.35	46,959.76
1981	167,148.56	75.00	2,228.64	32.21	71,774.67
1982	230,983.79	75.00	3,079.77	33.07	101,835.29
1983	300,892.83	75.00	4,011.88	33.93	136,139.51
1984	237,671.89	75.00	3,168.94	34.81	110,323.60
1985	383,851.81	75.00	5,118.00	35.70	182,708.43
1986	631,805.32	75.00	8,424.03	36.59	308,248.08
1987	587,781.72	75.00	7,837.05	37.49	293,844.78
1988	517,842.93	75.00	6,904.54	38.40	265,146.43
1989	370,484.02	75.00	4,939.76	39.32	194,209.30
1990	361,599.66	75.00	4,821.31	40.24	194,001.17
1991	798,090.31	75.00	10,641.15	41.17	438,045.02
1992	397,909.84	75.00	5,305.44	42.10	223,345.61
1993	618,050.92	75.00	8,240.64	43.04	354,655.75
1994	201,812.65	75.00	2,690.82	43.98	118,344.53
1995	683,550.18	75.00	9,113.96	44.93	409,478.73
1996	466,314.77	75.00	6,217.50	45.88	285,277.51

FE 2025 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	254,639.18	75.00	3,395.17	46.84	159,030.25
1998	140,621.23	75.00	1,874.94	47.80	89,623.93
1999	518,033.29	75.00	6,907.08	48.77	336,836.35
2000	675,798.13	75.00	9,010.60	49.74	448,142.81
2001	848,566.30	75.00	11,314.16	50.71	573,698.85
2002	618,166.45	75.00	8,242.18	51.68	425,967.68
2003	688.60	75.00	9.18	52.66	483.47
2005	67,151.14	75.00	895.34	54.62	48,903.77
2006	7,380,103.20	75.00	98,400.90	55.60	5,471,466.85
2007	1,244,906.81	75.00	16,598.68	56.59	939,307.89
2008	21,747,370.73	75.00	289,963.53	57.58	16,695,252.53
2009	19,774,272.02	75.00	263,655.67	58.57	15,441,226.59
2010	15,854,093.88	75.00	211,386.89	59.56	12,589,349.46
2011	9,051,231.56	75.00	120,682.50	60.55	7,307,047.63
2012	101,420.92	75.00	1,352.27	61.54	83,219.10
2013	40,775,500.03	75.00	543,670.68	62.53	33,997,684.24
2014	9,832,998.60	75.00	131,106.01	63.53	8,328,924.13
2015	9,532,521.12	75.00	127,099.66	64.52	8,200,885.39
2016	19,331,812.84	75.00	257,756.25	65.52	16,887,933.53
2017	9,147,203.86	75.00	121,962.12	66.52	8,112,376.66
2018	34,031,266.10	75.00	453,748.00	67.51	30,633,634.06
2019	27,868,237.24	75.00	371,574.68	68.51	25,456,495.42
2020	23,751,932.01	75.00	316,690.88	69.51	22,012,433.18
2021	15,810,753.30	75.00	210,809.02	70.51	14,863,243.28
2023	599,335.09	75.00	7,991.10	72.50	579,377.02

FE 2025 Study - Pennsylvania Electric
Electric Division
365.10 Overhead Conductors - Clearing and ROW
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	283,177,859.90	75.00	3,775,686.38	62.26	235,065,976.26

Composite Average Remaining Life ... 62.26 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
365.20 OH Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1998	301.81	60.00	5.03	43.40	218.29
2004	21,790.27	60.00	363.16	46.94	17,047.26
2005	63,298.87	60.00	1,054.96	47.54	50,149.15
2006	49,203.23	60.00	820.04	48.13	39,470.58
2010	50,378.45	60.00	839.63	50.53	42,426.00
2013	20,577.69	60.00	342.96	52.34	17,949.81
2014	128,028.85	60.00	2,133.77	52.94	112,970.93
2015	42,608.75	60.00	710.13	53.55	38,028.17
2016	180,319.47	60.00	3,005.27	54.16	162,760.56
2017	55,068.99	60.00	917.80	54.77	50,265.78
2018	20,127.97	60.00	335.46	55.38	18,577.00
2019	2,841.43	60.00	47.36	55.99	2,651.47
2020	19,796.23	60.00	329.93	56.60	18,675.14
2022	5,802.18	60.00	96.70	57.83	5,592.57
2023	90,049.61	60.00	1,500.80	58.45	87,723.46
2024	0.01	60.00	0.00	59.07	0.01
Total	750,193.81	60.00	12,503.00	53.15	664,506.20

Composite Average Remaining Life ... 53.15 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
365.30 OH Conductors - Clearing and ROW - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	88.32	75.00	1.18	56.59	66.64
2013	28,148.97	75.00	375.32	62.53	23,469.97
2016	8,920.01	75.00	118.93	65.52	7,792.36
Total	37,157.30	75.00	495.43	63.24	31,328.97

Composite Average Remaining Life ... 63.24 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	798,560.10	65.00	12,285.51	10.98	134,869.80
1945	3,522.02	65.00	54.18	11.66	631.74
1947	100,829.38	65.00	1,551.22	12.37	19,182.83
1948	2,523.62	65.00	38.82	12.73	494.24
1949	192,569.28	65.00	2,962.60	13.10	38,817.59
1950	52,656.41	65.00	810.10	13.48	10,921.55
1951	109,852.21	65.00	1,690.03	13.87	23,440.32
1952	72,035.51	65.00	1,108.24	14.27	15,809.51
1953	79,512.72	65.00	1,223.27	14.67	17,944.97
1954	54,805.93	65.00	843.17	15.08	12,717.16
1955	92,219.77	65.00	1,418.76	15.50	21,996.95
1956	62,133.65	65.00	955.90	15.93	15,231.71
1957	81,571.60	65.00	1,254.94	16.37	20,548.46
1959	113,270.63	65.00	1,742.62	17.28	30,111.79
1960	233,285.05	65.00	3,588.99	17.75	63,687.76
1961	114,524.03	65.00	1,761.90	18.22	32,104.76
1962	106,837.69	65.00	1,643.65	18.71	30,745.16
1963	102,093.50	65.00	1,570.67	19.20	30,157.28
1964	135,791.82	65.00	2,089.10	19.70	41,159.82
1965	274,628.27	65.00	4,225.04	20.22	85,412.20
1966	585,232.04	65.00	9,003.55	20.74	186,693.90
1967	711,086.77	65.00	10,939.77	21.27	232,663.06
1968	535,271.58	65.00	8,234.93	21.81	179,585.75
1969	698,359.69	65.00	10,743.97	22.36	240,188.62
1970	624,824.25	65.00	9,612.66	22.91	220,264.30
1971	788,864.50	65.00	12,136.35	23.48	284,954.68
1972	899,676.53	65.00	13,841.15	24.06	332,957.42

FE 2025 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	1,030,438.87	65.00	15,852.87	24.64	390,588.90
1974	871,232.22	65.00	13,403.54	25.23	338,199.45
1975	512,583.75	65.00	7,885.89	25.83	203,706.60
1976	523,378.09	65.00	8,051.95	26.44	212,915.24
1977	502,230.86	65.00	7,726.61	27.06	209,074.12
1978	511,232.41	65.00	7,865.10	27.69	217,757.87
1979	526,749.03	65.00	8,103.81	28.32	229,492.44
1980	339,906.69	65.00	5,229.32	28.96	151,457.09
1981	449,556.60	65.00	6,916.24	29.61	204,816.45
1982	416,885.36	65.00	6,413.61	30.27	194,146.64
1983	322,982.72	65.00	4,968.95	30.94	153,727.13
1984	381,871.40	65.00	5,874.93	31.61	185,705.74
1985	401,639.68	65.00	6,179.06	32.29	199,531.42
1986	670,272.33	65.00	10,311.86	32.98	340,070.43
1987	688,578.53	65.00	10,593.49	33.68	356,736.56
1988	770,871.32	65.00	11,859.53	34.38	407,687.40
1989	587,031.30	65.00	9,031.23	35.09	316,880.63
1990	800,426.55	65.00	12,314.23	35.80	440,878.39
1991	1,350,850.35	65.00	20,782.27	36.53	759,116.68
1992	1,203,640.13	65.00	18,517.50	37.26	689,883.32
1993	1,698,005.69	65.00	26,123.11	37.99	992,522.71
1994	836,682.32	65.00	12,872.01	38.74	498,635.09
1995	1,510,512.80	65.00	23,238.61	39.49	917,625.33
1996	607,131.29	65.00	9,340.46	40.24	375,896.96
1997	1,164,655.86	65.00	17,917.74	41.01	734,727.57
1998	1,358,061.66	65.00	20,893.21	41.77	872,813.56
1999	599,781.74	65.00	9,227.39	42.55	392,614.06

FE 2025 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2000	1,828,776.22	65.00	28,134.96	43.33	1,219,097.55
2001	1,401,283.60	65.00	21,558.16	44.12	951,057.90
2002	934,855.95	65.00	14,382.37	44.91	645,902.48
2003	8,912.82	65.00	137.12	45.71	6,267.25
2004	10,420.85	65.00	160.32	46.51	7,456.70
2005	27,995.59	65.00	430.70	47.32	20,380.46
2006	28,131.10	65.00	432.79	48.14	20,832.27
2007	5,113.80	65.00	78.67	48.96	3,851.55
2008	9,968.11	65.00	153.36	49.78	7,634.18
2009	3,201.20	65.00	49.25	50.61	2,492.61
2011	1,928,505.26	65.00	29,669.25	52.29	1,551,381.51
2012	442,837.69	65.00	6,812.87	53.13	361,998.31
2013	297,781.65	65.00	4,581.25	53.99	247,323.12
2014	203,073.95	65.00	3,124.21	54.84	171,334.26
2015	325,234.94	65.00	5,003.60	55.70	278,710.79
2016	89,462.69	65.00	1,376.35	56.57	77,854.64
2017	275,497.10	65.00	4,238.41	57.44	243,439.75
2018	1,756,488.67	65.00	27,022.84	58.31	1,575,694.89
2019	919,591.70	65.00	14,147.53	59.19	837,379.51
2020	777,144.57	65.00	11,956.04	60.07	718,225.29
2021	1,179,358.09	65.00	18,143.93	60.96	1,106,031.28
2022	1,091,319.70	65.00	16,789.50	61.85	1,038,434.26
2023	4,012,944.97	65.00	61,737.48	62.74	3,873,713.69
2024	949,825.23	65.00	14,612.66	63.64	930,015.34
2025	43,136.98	65.00	663.64	64.55	42,836.21

FE 2025 Study - Pennsylvania Electric
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	46,814,590.53	65.00	720,222.91	40.61	29,249,846.92

Composite Average Remaining Life ... 40.61 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1965	10,072.51	44.00	228.92	5.20	1,189.36
1966	53,513.87	44.00	1,216.22	5.43	6,609.53
1967	109,682.59	44.00	2,492.78	5.68	14,156.65
1968	467,238.88	44.00	10,619.04	5.93	62,969.01
1969	407,331.72	44.00	9,257.51	6.18	57,233.63
1970	539,976.03	44.00	12,272.15	6.45	79,126.08
1971	490,157.39	44.00	11,139.91	6.72	74,892.09
1972	689,685.99	44.00	15,674.64	7.01	109,868.92
1973	586,417.60	44.00	13,327.64	7.31	97,362.71
1974	644,809.30	44.00	14,654.72	7.62	111,642.21
1975	788,960.13	44.00	17,930.86	7.95	142,485.80
1976	623,881.64	44.00	14,179.09	8.29	117,558.33
1977	617,531.66	44.00	14,034.77	8.65	121,435.44
1978	732,902.73	44.00	16,656.83	9.03	150,459.68
1979	834,536.61	44.00	18,966.69	9.43	178,896.40
1980	1,023,162.39	44.00	23,253.63	9.85	229,087.43
1981	671,036.25	44.00	15,250.78	10.29	156,935.61
1982	1,076,626.46	44.00	24,468.72	10.75	263,004.78
1983	1,033,057.62	44.00	23,478.52	11.23	263,580.55
1984	921,537.87	44.00	20,943.98	11.73	245,592.89
1985	810,963.35	44.00	18,430.93	12.24	225,658.96
1986	1,244,123.45	44.00	28,275.45	12.78	361,346.59
1987	1,895,238.05	44.00	43,073.47	13.34	574,420.84
1988	2,874,967.78	44.00	65,340.00	13.91	908,802.40
1989	3,220,874.70	44.00	73,201.50	14.50	1,061,340.27
1990	3,230,047.29	44.00	73,409.96	15.11	1,108,889.35
1991	4,284,735.74	44.00	97,380.09	15.73	1,531,817.45

FE 2025 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1992	5,554,154.71	44.00	126,230.44	16.37	2,066,259.02
1993	5,516,035.88	44.00	125,364.11	17.02	2,133,975.54
1994	3,647,708.73	44.00	82,902.24	17.69	1,466,506.35
1995	6,656,737.12	44.00	151,289.06	18.37	2,779,646.46
1996	5,186,379.73	44.00	117,871.94	19.07	2,247,574.08
1997	6,098,280.72	44.00	138,596.91	19.78	2,740,804.17
1998	4,907,483.58	44.00	111,533.41	20.49	2,285,875.86
1999	3,202,873.90	44.00	72,792.39	21.23	1,545,313.27
2000	3,032,906.36	44.00	68,929.50	21.97	1,514,570.08
2001	2,753,619.85	44.00	62,582.10	22.73	1,422,339.24
2002	1,865,021.39	44.00	42,386.73	23.50	995,880.19
2003	3,674,813.28	44.00	83,518.25	24.27	2,027,163.52
2004	3,189,883.93	44.00	72,497.16	25.06	1,816,735.87
2005	4,014,459.76	44.00	91,237.47	25.86	2,359,105.94
2006	4,234,612.86	44.00	96,240.94	26.67	2,566,341.45
2007	2,349,875.37	44.00	53,406.11	27.48	1,467,768.30
2008	3,881,874.61	44.00	88,224.18	28.31	2,497,607.68
2009	3,118,850.34	44.00	70,882.77	29.15	2,065,995.11
2010	4,130,298.62	44.00	93,870.16	29.99	2,815,318.53
2011	13,943,053.52	44.00	316,886.71	30.85	9,774,382.61
2012	8,271,685.07	44.00	187,992.32	31.71	5,960,600.79
2013	6,258,332.38	44.00	142,234.43	32.58	4,633,614.69
2014	7,213,848.82	44.00	163,950.66	33.45	5,484,942.62
2015	9,084,720.46	44.00	206,470.35	34.34	7,090,115.02
2016	7,177,650.40	44.00	163,127.97	35.23	5,747,224.02
2017	7,412,234.80	44.00	168,459.42	36.13	6,086,598.58
2018	9,283,589.78	44.00	210,990.09	37.04	7,814,251.38

FE 2025 Study - Pennsylvania Electric
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2019	7,901,311.71	44.00	179,574.77	37.95	6,814,375.22
2020	8,434,978.72	44.00	191,703.53	38.86	7,450,404.51
2021	12,065,327.91	44.00	274,211.24	39.79	10,910,208.18
2022	10,995,800.41	44.00	249,903.87	40.72	10,174,936.46
2023	11,042,583.25	44.00	250,967.11	41.65	10,452,290.67
2024	15,645,677.87	44.00	355,582.61	42.59	15,142,812.87
2025	17,792,292.01	44.00	404,369.16	43.53	17,601,261.15
Total	259,422,027.45	44.00	5,895,938.91	30.23	178,209,162.40

Composite Average Remaining Life ... 30.23 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
367.10 Underground Conductors - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	3,221.73	44.00	73.22	26.67	1,952.49
2007	855.78	44.00	19.45	27.48	534.53
2008	989.89	44.00	22.50	28.31	636.90
2009	7.03	44.00	0.16	29.15	4.66
2012	19,278.06	44.00	438.14	31.71	13,891.83
2013	65,089.93	44.00	1,479.31	32.58	48,192.02
2014	86,367.01	44.00	1,962.88	33.45	65,667.87
2015	871.02	44.00	19.80	34.34	679.78
2016	1,503.27	44.00	34.17	35.23	1,203.68
2017	48,576.37	44.00	1,104.01	36.13	39,888.76
2018	79.43	44.00	1.81	37.04	66.86
2019	0.18	44.00	0.00	37.95	0.16
2020	371,258.94	44.00	8,437.68	38.86	327,923.68
2021	385,924.43	44.00	8,770.99	39.79	348,976.50
2022	8,142.49	44.00	185.06	40.72	7,534.63
2023	294,018.51	44.00	6,682.22	41.65	278,301.45
Total	1,286,184.07	44.00	29,231.38	38.84	1,135,455.80

Composite Average Remaining Life ... 38.84 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 44 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1929	298.75	0.00	0.00	0.00	0.00
1943	14,492.08	44.00	329.36	1.99	656.85
1944	1,249.45	44.00	28.40	2.33	66.08
1945	769.51	44.00	17.49	2.65	46.28
1946	3,340.33	44.00	75.91	2.95	224.31
1947	5,973.18	44.00	135.75	3.25	440.79
1948	4,122.63	44.00	93.69	3.54	332.08
1949	66,428.03	44.00	1,509.69	3.84	5,799.12
1950	87,067.16	44.00	1,978.75	4.14	8,191.18
1951	231,466.58	44.00	5,260.47	4.43	23,321.28
1952	134,043.75	44.00	3,046.37	4.74	14,430.23
1953	213,214.13	44.00	4,845.66	5.04	24,444.65
1954	230,979.51	44.00	5,249.40	5.36	28,120.56
1955	273,561.01	44.00	6,217.14	5.67	35,241.38
1956	305,818.24	44.00	6,950.24	5.99	41,630.35
1957	538,531.48	44.00	12,239.05	6.32	77,305.81
1958	679,875.32	44.00	15,451.33	6.65	102,675.42
1959	716,166.32	44.00	16,276.10	6.98	113,633.07
1960	645,552.03	44.00	14,671.27	7.32	107,447.67
1961	678,427.48	44.00	15,418.42	7.67	118,280.00
1962	651,014.44	44.00	14,795.41	8.02	118,694.20
1963	798,984.96	44.00	18,158.30	8.38	152,183.80
1964	701,443.45	44.00	15,941.50	8.75	139,414.79
1965	903,462.67	44.00	20,532.73	9.11	187,148.75
1966	1,150,996.81	44.00	26,158.37	9.49	248,260.31
1967	1,132,064.44	44.00	25,728.10	9.87	254,009.10
1968	1,087,142.53	44.00	24,707.17	10.26	253,524.73

FE 2025 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	1,181,587.35	44.00	26,853.59	10.66	286,129.89
1970	1,308,062.62	44.00	29,727.96	11.06	328,674.46
1971	1,277,043.73	44.00	29,023.00	11.46	332,704.20
1972	1,432,953.38	44.00	32,566.31	11.88	386,804.34
1973	1,789,593.47	44.00	40,671.57	12.30	500,178.30
1974	1,719,433.47	44.00	39,077.06	12.73	497,274.49
1975	988,709.77	44.00	22,470.12	13.16	295,704.05
1976	1,377,163.11	44.00	31,298.38	13.60	425,697.33
1977	2,078,356.55	44.00	47,234.20	14.05	663,648.58
1978	2,336,551.97	44.00	53,102.13	14.51	770,301.46
1979	2,417,488.80	44.00	54,941.56	14.97	822,430.30
1980	2,000,640.89	44.00	45,467.98	15.44	702,040.21
1981	2,676,466.34	44.00	60,827.27	15.92	968,285.60
1982	3,085,793.36	44.00	70,129.92	16.40	1,150,442.09
1983	3,362,210.75	44.00	76,411.98	16.90	1,291,199.68
1984	4,411,652.36	44.00	100,262.33	17.40	1,744,563.83
1985	6,327,686.12	44.00	143,807.47	17.91	2,575,480.78
1986	7,321,390.49	44.00	166,391.10	18.43	3,065,958.45
1987	4,955,565.52	44.00	112,623.69	18.95	2,134,431.48
1988	6,623,644.32	44.00	150,533.62	19.48	2,933,142.36
1989	7,670,003.48	44.00	174,313.92	20.03	3,490,785.42
1990	6,352,897.52	44.00	144,380.44	20.57	2,970,561.69
1991	4,869,788.52	44.00	110,674.26	21.13	2,338,787.69
1992	6,597,679.68	44.00	149,943.53	21.70	3,253,306.85
1993	6,403,792.47	44.00	145,537.12	22.27	3,241,001.89
1994	5,510,375.48	44.00	125,232.69	22.85	2,861,465.39
1995	7,071,721.28	44.00	160,716.94	23.44	3,766,882.20

FE 2025 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	2,834,368.87	44.00	64,415.87	24.03	1,548,123.73
1997	5,407,666.02	44.00	122,898.44	24.64	3,027,692.73
1998	4,524,619.10	44.00	102,829.69	25.25	2,595,957.75
1999	5,232,732.11	44.00	118,922.77	25.86	3,075,707.72
2000	9,638,405.99	44.00	219,049.23	26.49	5,801,844.70
2001	7,055,231.40	44.00	160,342.18	27.12	4,347,882.93
2002	6,829,676.61	44.00	155,216.06	27.75	4,307,756.50
2003	7,545,642.76	44.00	171,487.61	28.40	4,869,477.70
2004	13,913,233.39	44.00	316,201.98	29.04	9,183,538.60
2005	19,226,008.79	44.00	436,943.87	29.70	12,975,613.21
2006	16,320,345.46	44.00	370,907.71	30.36	11,259,045.88
2007	10,772,111.26	44.00	244,814.62	31.02	7,593,755.41
2008	16,533,562.60	44.00	375,753.43	31.69	11,906,022.13
2009	13,573,355.58	44.00	308,477.68	32.36	9,981,671.72
2010	12,128,176.56	44.00	275,633.52	33.03	9,105,101.87
2011	32,798,482.88	44.00	745,401.51	33.71	25,129,296.96
2012	15,441,240.46	44.00	350,928.55	34.39	12,070,143.05
2013	10,509,049.01	44.00	238,836.08	35.08	8,378,695.69
2014	9,717,679.35	44.00	220,850.85	35.77	7,899,999.58
2015	7,743,147.91	44.00	175,976.25	36.46	6,416,727.01
2016	9,276,101.75	44.00	210,815.25	37.16	7,833,917.74
2017	9,161,202.49	44.00	208,203.97	37.86	7,882,896.94
2018	9,776,479.01	44.00	222,187.17	38.57	8,568,909.68
2019	13,213,053.58	44.00	300,289.20	39.28	11,793,897.63
2020	13,153,671.89	44.00	298,939.65	39.99	11,954,130.37
2021	14,365,266.34	44.00	326,475.20	40.71	13,289,968.40
2022	16,519,739.20	44.00	375,439.27	41.43	15,554,580.47

FE 2025 Study - Pennsylvania Electric
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *44* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	14,923,922.34	44.00	339,171.61	42.16	14,298,831.43
2024	18,846,874.51	44.00	428,327.40	42.89	18,371,709.03
2025	37,686,798.07	44.00	856,496.82	43.63	37,368,957.85
Total	499,072,584.36	43.48	11,342,269.62	31.23	354,245,260.17

Composite Average Remaining Life ... 31.23 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	46,914.48	60.00	781.89	12.43	9,715.37
1944	1,759.64	60.00	29.33	12.80	375.42
1945	3,915.83	60.00	65.26	13.18	860.19
1946	8,177.15	60.00	136.28	13.57	1,848.76
1947	15,974.23	60.00	266.23	13.95	3,714.88
1948	27,725.05	60.00	462.07	14.35	6,629.17
1949	24,681.24	60.00	411.35	14.74	6,065.05
1950	26,543.71	60.00	442.39	15.15	6,700.95
1951	29,444.42	60.00	490.73	15.55	7,633.09
1952	30,905.78	60.00	515.09	15.97	8,224.40
1953	36,241.39	60.00	604.01	16.38	9,896.11
1954	35,117.93	60.00	585.29	16.81	9,836.36
1955	48,832.47	60.00	813.86	17.23	14,025.37
1956	178,152.20	60.00	2,969.14	17.67	52,450.90
1957	260,021.38	60.00	4,333.60	18.10	78,449.98
1958	244,393.30	60.00	4,073.14	18.54	75,536.26
1959	290,290.37	60.00	4,838.08	18.99	91,889.19
1960	347,590.59	60.00	5,793.06	19.45	112,652.81
1961	385,148.65	60.00	6,419.02	19.90	127,768.56
1962	467,854.81	60.00	7,797.43	20.37	158,820.26
1963	551,880.45	60.00	9,197.82	20.84	191,663.19
1964	549,197.23	60.00	9,153.11	21.31	195,078.78
1965	660,714.77	60.00	11,011.69	21.79	239,977.12
1966	628,845.86	60.00	10,480.56	22.28	233,499.32
1967	594,274.63	60.00	9,904.38	22.77	225,533.80
1968	556,761.26	60.00	9,279.17	23.27	215,908.48
1969	604,116.18	60.00	10,068.40	23.77	239,341.74

FE 2025 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1970	585,286.89	60.00	9,754.59	24.28	236,836.55
1971	670,102.63	60.00	11,168.16	24.79	276,912.20
1972	718,737.65	60.00	11,978.72	25.32	303,249.53
1973	776,534.05	60.00	12,941.98	25.84	334,448.09
1974	687,160.34	60.00	11,452.44	26.37	302,043.24
1975	636,276.74	60.00	10,604.40	26.91	285,386.50
1976	731,395.13	60.00	12,189.68	27.45	334,664.26
1977	763,571.17	60.00	12,725.93	28.01	356,390.86
1978	718,540.49	60.00	11,975.44	28.56	342,030.07
1979	717,318.25	60.00	11,955.07	29.12	348,159.30
1980	747,266.54	60.00	12,454.19	29.69	369,748.42
1981	1,150,231.89	60.00	19,170.15	30.26	580,123.52
1982	1,120,046.05	60.00	18,667.06	30.84	575,672.27
1983	982,653.20	60.00	16,377.23	31.42	514,632.94
1984	1,129,378.42	60.00	18,822.60	32.01	602,580.57
1985	1,094,610.99	60.00	18,243.15	32.61	594,887.67
1986	1,013,783.75	60.00	16,896.06	33.21	561,094.30
1987	955,343.73	60.00	15,922.08	33.81	538,401.27
1988	977,341.49	60.00	16,288.70	34.42	560,729.58
1989	870,000.16	60.00	14,499.71	35.04	508,088.35
1990	1,162,524.32	60.00	19,375.02	35.66	690,965.86
1991	1,554,292.70	60.00	25,904.36	36.29	940,036.16
1992	953,998.27	60.00	15,899.66	36.92	586,994.92
1993	2,718,087.93	60.00	45,300.57	37.55	1,701,232.76
1994	781,121.84	60.00	13,018.44	38.19	497,211.17
1995	1,204,670.59	60.00	20,077.44	38.84	779,757.17
1996	1,365,627.84	60.00	22,760.01	39.49	898,699.67

FE 2025 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	1,288,413.56	60.00	21,473.13	40.14	861,888.91
1998	2,373,266.85	60.00	39,553.66	40.79	1,613,524.26
1999	2,305,286.61	60.00	38,420.68	41.45	1,592,655.49
2000	1,598,922.92	60.00	26,648.19	42.11	1,122,288.17
2001	1,401,989.49	60.00	23,366.03	42.78	999,640.14
2002	1,381,580.70	60.00	23,025.89	43.45	1,000,507.14
2003	609,491.49	60.00	10,157.99	44.12	448,208.81
2004	21,945.94	60.00	365.76	44.80	16,385.41
2005	55,168.29	60.00	919.45	45.48	41,813.57
2006	836,484.30	60.00	13,941.13	46.16	643,468.96
2007	1,770,777.55	60.00	29,512.37	46.84	1,382,347.81
2008	1,378,646.08	60.00	22,976.98	47.53	1,091,987.71
2009	565,434.55	60.00	9,423.72	48.21	454,340.02
2010	708,856.04	60.00	11,814.03	48.90	577,744.93
2011	7,604,208.67	60.00	126,734.29	49.60	6,285,593.29
2012	2,070,688.21	60.00	34,510.78	50.29	1,735,602.11
2013	1,882,582.67	60.00	31,375.75	50.99	1,599,872.91
2014	1,459,231.54	60.00	24,320.04	51.69	1,257,166.90
2015	1,754,558.87	60.00	29,242.07	52.40	1,532,206.64
2016	2,432,856.72	60.00	40,546.81	53.10	2,153,223.66
2017	1,909,944.76	60.00	31,831.78	53.82	1,713,057.19
2018	2,299,226.75	60.00	38,319.68	54.53	2,089,546.18
2019	3,167,224.88	60.00	52,786.03	55.25	2,916,299.67
2020	2,902,301.01	60.00	48,370.72	55.97	2,707,264.19
2021	4,161,360.94	60.00	69,354.64	56.69	3,931,985.16
2022	3,949,856.29	60.00	65,829.63	57.42	3,780,056.83
2023	3,637,722.66	60.00	60,627.51	58.15	3,525,748.40

FE 2025 Study - Pennsylvania Electric
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2024	2,014,858.71	60.00	33,580.31	58.89	1,977,518.41
2025	5,026,241.04	60.00	83,769.02	59.63	4,995,114.09
Total	96,010,506.14	60.00	1,600,143.31	44.37	70,992,129.66

Composite Average Remaining Life ... 44.37 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1943	887.63	60.00	14.79	12.43	183.82
1948	3,348.74	60.00	55.81	14.35	800.70
1949	5,928.62	60.00	98.81	14.74	1,456.87
1950	5,392.25	60.00	89.87	15.15	1,361.27
1951	3,703.76	60.00	61.73	15.55	960.15
1952	5,066.27	60.00	84.44	15.97	1,348.20
1953	6,753.36	60.00	112.55	16.38	1,844.08
1954	12,214.06	60.00	203.56	16.81	3,421.10
1955	6,746.94	60.00	112.45	17.23	1,937.82
1956	11,257.69	60.00	187.62	17.67	3,314.45
1957	10,034.85	60.00	167.24	18.10	3,027.57
1958	8,932.09	60.00	148.87	18.54	2,760.70
1959	8,741.35	60.00	145.69	18.99	2,767.01
1960	9,747.87	60.00	162.46	19.45	3,159.25
1961	5,427.59	60.00	90.46	19.90	1,800.54
1962	8,999.08	60.00	149.98	20.37	3,054.87
1963	9,267.84	60.00	154.46	20.84	3,218.64
1964	9,749.13	60.00	162.48	21.31	3,462.96
1965	20,813.67	60.00	346.89	21.79	7,559.70
1966	298,444.80	60.00	4,973.98	22.28	110,816.76
1967	471,783.79	60.00	7,862.91	22.77	179,047.17
1968	571,150.16	60.00	9,518.98	23.27	221,488.40
1969	529,450.14	60.00	8,823.99	23.77	209,760.18
1970	506,950.52	60.00	8,449.01	24.28	205,137.71
1971	372,809.26	60.00	6,213.36	24.79	154,059.14
1972	425,360.27	60.00	7,089.20	25.32	179,467.85
1973	470,428.86	60.00	7,840.33	25.84	202,610.61

FE 2025 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1974	454,234.84	60.00	7,570.43	26.37	199,660.19
1975	413,872.64	60.00	6,897.74	26.91	185,632.53
1976	465,240.01	60.00	7,753.85	27.45	212,879.74
1977	523,047.30	60.00	8,717.28	28.01	244,128.23
1978	578,773.96	60.00	9,646.04	28.56	275,500.26
1979	830,455.36	60.00	13,840.65	29.12	403,071.79
1980	603,843.81	60.00	10,063.86	29.69	298,782.67
1981	565,656.83	60.00	9,427.43	30.26	285,291.02
1982	539,935.31	60.00	8,998.74	30.84	277,511.61
1983	633,071.79	60.00	10,550.99	31.42	331,550.95
1984	862,892.34	60.00	14,381.25	32.01	460,396.76
1985	380,899.85	60.00	6,348.20	32.61	207,007.45
1986	764,161.98	60.00	12,735.78	33.21	422,937.27
1987	948,008.94	60.00	15,799.84	33.81	534,267.61
1988	1,039,519.96	60.00	17,324.99	34.42	596,403.20
1989	1,027,579.99	60.00	17,125.99	35.04	600,116.47
1990	1,531,054.55	60.00	25,517.07	35.66	910,008.00
1991	2,084,144.74	60.00	34,735.06	36.29	1,260,490.65
1992	342,511.74	60.00	5,708.42	36.92	210,747.40
1993	3,473,725.04	60.00	57,894.27	37.55	2,174,180.89
1994	1,053,335.11	60.00	17,555.24	38.19	670,484.37
1995	3,082,176.49	60.00	51,368.59	38.84	1,995,026.07
1996	2,171,600.44	60.00	36,192.62	39.49	1,429,098.43
1997	2,653,231.48	60.00	44,219.65	40.14	1,774,888.79
1998	2,419,053.64	60.00	40,316.76	40.79	1,644,653.54
1999	3,713,599.73	60.00	61,892.10	41.45	2,565,618.08
2000	2,415,235.44	60.00	40,253.12	42.11	1,695,260.05

FE 2025 Study - Pennsylvania Electric
Electric Division
369.10 Underground Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	2,700,963.35	60.00	45,015.16	42.78	1,925,828.55
2002	2,833,463.20	60.00	47,223.45	43.45	2,051,925.14
2003	1,217,630.34	60.00	20,293.44	44.12	895,422.92
2006	463,815.83	60.00	7,730.11	46.16	356,792.22
2007	812,200.53	60.00	13,536.41	46.84	634,039.90
2008	677,871.11	60.00	11,297.63	47.53	536,923.09
2013	1,119.85	60.00	18.66	50.99	951.68
Total	48,077,318.11	60.00	801,272.71	37.16	29,777,305.00

Composite Average Remaining Life ... 37.16 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	19,067.74	15.00	1,271.18	4.45	5,651.02
2013	14,079.54	15.00	938.64	4.92	4,613.48
2014	111,182.08	15.00	7,412.14	5.43	40,239.36
2015	6,915,974.02	15.00	461,064.95	5.99	2,763,046.43
2016	35,461,930.74	15.00	2,364,128.81	6.61	15,628,381.63
2017	34,466,476.23	15.00	2,297,765.17	7.29	16,741,039.47
2018	29,693,853.23	15.00	1,979,590.29	8.02	15,881,133.76
2019	9,896,493.16	15.00	659,766.24	8.82	5,818,898.20
2020	6,896,136.81	15.00	459,742.47	9.67	4,447,664.56
2021	6,020,445.33	15.00	401,363.04	10.58	4,246,971.48
2022	5,454,281.01	15.00	363,618.75	11.53	4,192,490.55
2023	5,516,019.92	15.00	367,734.68	12.51	4,599,337.05
2024	5,473,042.98	15.00	364,869.55	13.50	4,926,026.51
2025	5,133,834.14	15.00	342,255.62	14.50	4,962,708.23
Total	151,072,816.93	15.00	10,071,521.51	8.37	84,258,201.74

Composite Average Remaining Life ... 8.37 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1900	47,396.58	0.00	0.00	0.00	0.00
1952	4,304.37	0.00	0.00	0.00	0.00
1953	63.56	0.00	0.00	0.00	0.00
1954	248.41	0.00	0.00	0.00	0.00
1957	42.14	0.00	0.00	0.00	0.00
1958	738.28	0.00	0.00	0.00	0.00
1959	40.52	0.00	0.00	0.00	0.00
1960	5,137.23	0.00	0.00	0.00	0.00
1961	17,922.85	0.00	0.00	0.00	0.00
1962	29,660.21	0.00	0.00	0.00	0.00
1963	107,519.55	0.00	0.00	0.00	0.00
1964	49,611.29	0.00	0.00	0.00	0.00
1965	67,486.47	0.00	0.00	0.00	0.00
1966	78,196.20	30.00	2,606.40	0.50	1,303.20
1967	235.42	30.00	7.85	0.82	6.46
1968	915.25	30.00	30.51	1.27	38.75
1971	234.47	30.00	7.82	2.63	20.55
1973	260.58	30.00	8.69	3.49	30.31
1974	12,740.78	30.00	424.67	3.91	1,658.84
1976	653.83	30.00	21.79	4.72	102.80
1977	687.79	30.00	22.93	5.12	117.30
1978	1,454.90	30.00	48.49	5.51	267.33
1979	26,027.43	30.00	867.53	5.91	5,125.44
1980	14,891.30	30.00	496.35	6.30	3,128.80
1981	269,915.25	30.00	8,996.69	6.70	60,270.96
1982	381,260.61	30.00	12,708.00	7.10	90,195.32
1983	352,765.47	30.00	11,758.21	7.50	88,170.00

FE 2025 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1984	427,655.31	30.00	14,254.41	7.90	112,645.70
1985	472,578.37	30.00	15,751.76	8.31	130,912.95
1986	629,108.77	30.00	20,969.16	8.72	182,938.30
1987	765,747.70	30.00	25,523.54	9.14	233,340.96
1988	847,460.16	30.00	28,247.14	9.57	270,213.40
1989	1,045,982.40	30.00	34,864.19	10.00	348,498.55
1990	2,620,165.53	30.00	87,334.13	10.43	911,071.99
1991	842,694.02	30.00	28,088.28	10.87	305,456.17
1992	431,092.72	30.00	14,368.98	11.32	162,722.67
1993	695,648.54	30.00	23,187.03	11.78	273,180.22
1994	682,917.80	30.00	22,762.70	12.25	278,748.35
1995	2,590,636.03	30.00	86,349.86	12.72	1,098,157.23
1996	2,128,263.50	30.00	70,938.28	13.20	936,181.50
1997	2,964,720.78	30.00	98,818.68	13.68	1,352,253.98
1998	2,460,947.78	30.00	82,027.16	14.18	1,163,057.86
1999	68,845.05	30.00	2,294.71	14.68	33,690.52
2000	215,303.80	30.00	7,176.41	15.19	109,024.64
2001	112,406.44	30.00	3,746.68	15.71	58,860.06
2003	155,316.20	30.00	5,176.93	16.77	86,809.37
2004	358,178.91	30.00	11,938.65	17.31	206,638.43
2005	414,539.51	30.00	13,817.24	17.86	246,714.28
2006	504,394.83	30.00	16,812.25	18.41	309,495.92
2007	145,512.25	30.00	4,850.15	18.97	92,000.13
2008	160,500.52	30.00	5,349.73	19.53	104,503.80
2009	165,452.85	30.00	5,514.80	20.11	110,877.20
2010	425,047.88	30.00	14,167.50	20.68	293,002.72
2011	1,449,816.84	30.00	48,324.61	21.26	1,027,487.45

FE 2025 Study - Pennsylvania Electric
Electric Division
371.00 Installations - Dusk to Dawn Lights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R0.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	628,669.11	30.00	20,954.50	21.85	457,789.21
2013	442,064.45	30.00	14,734.68	22.43	330,572.30
2014	601,699.27	30.00	20,055.56	23.03	461,811.15
2015	263,409.33	30.00	8,779.84	23.62	207,385.62
2016	131,325.43	30.00	4,377.28	24.22	106,004.87
2017	139,676.01	30.00	4,655.62	24.82	115,533.22
2018	124,208.42	30.00	4,140.06	25.42	105,226.04
2019	181,440.86	30.00	6,047.70	26.02	157,357.61
2020	145,360.20	30.00	4,845.08	26.62	128,999.67
2021	120,301.13	30.00	4,009.82	27.23	109,198.02
2022	131,897.39	30.00	4,396.34	27.84	122,407.15
2023	145,588.34	30.00	4,852.68	28.46	138,089.32
Total	28,306,985.17	24.09	932,510.02	14.08	13,129,294.59

Composite Average Remaining Life ... 14.08 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
371.21 Installations - Meter Socket Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1997	213,010.45	25.00	8,520.35	4.59	39,097.16
1998	10,728.04	25.00	429.12	4.94	2,121.90
Total	223,738.49	25.00	8,949.47	4.61	41,219.06

Composite Average Remaining Life ... 4.61 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
372.00 Leased Property on Customer Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 40 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1948	335.18	0.00	0.00	0.00	0.00
1949	2,134.65	0.00	0.00	0.00	0.00
1950	102.34	0.00	0.00	0.00	0.00
1951	1,809.13	0.00	0.00	0.00	0.00
1952	175.35	0.00	0.00	0.00	0.00
1953	178.68	0.00	0.00	0.00	0.00
1954	8.19	0.00	0.00	0.00	0.00
1956	4,065.11	0.00	0.00	0.00	0.00
1957	71.78	0.00	0.00	0.00	0.00
1960	1,914.20	40.00	47.85	0.64	30.85
1963	4,455.30	40.00	111.38	1.25	139.73
1965	14,198.77	40.00	354.97	1.74	616.34
1966	87.97	40.00	2.20	1.99	4.38
1967	3,448.43	40.00	86.21	2.24	192.96
1969	1,525.04	40.00	38.13	2.75	104.79
1971	1,949.76	40.00	48.74	3.26	158.94
1973	749.44	40.00	18.74	3.78	70.78
1976	819.15	40.00	20.48	4.59	94.06
1977	1,624.26	40.00	40.61	4.88	198.19
1978	51,610.51	40.00	1,290.26	5.19	6,691.44
1980	993.51	40.00	24.84	5.84	145.11
1983	5,270.38	40.00	131.76	6.98	919.02
1984	6,090.82	40.00	152.27	7.40	1,126.30
1985	12,547.43	40.00	313.69	7.84	2,460.16
1988	3,275.76	40.00	81.89	9.32	763.36
1991	6,061.78	40.00	151.54	11.01	1,668.82
1992	17,393.03	40.00	434.83	11.62	5,051.92

FE 2025 Study - Pennsylvania Electric
Electric Division
372.00 Leased Property on Customer Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *40* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	35,509.93	40.00	887.75	19.48	17,295.65
2006	17,907.26	40.00	447.68	21.93	9,819.13
Total	196,313.14	27.59	4,685.82	10.15	47,551.93

Composite Average Remaining Life ... 10.15 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	12,610.38	0.00	0.00	0.00	0.00
1985	118.11	0.00	0.00	0.00	0.00
1990	899.47	20.00	44.97	1.56	70.14
1991	1,586.80	20.00	79.33	1.85	147.01
1992	882.31	20.00	44.11	2.15	94.66
1993	137.22	20.00	6.86	2.45	16.83
1994	11,790.42	20.00	589.48	2.77	1,631.29
1995	49,183.90	20.00	2,459.03	3.10	7,614.02
1996	43,600.84	20.00	2,179.89	3.44	7,488.02
1997	32,133.25	20.00	1,606.55	3.79	6,085.86
1998	20,443.08	20.00	1,022.08	4.15	4,244.39
1999	799,092.24	20.00	39,951.90	4.53	181,045.87
2000	675,067.15	20.00	33,751.07	4.92	166,175.08
2001	687,865.44	20.00	34,390.94	5.33	183,311.81
2002	601,454.33	20.00	30,070.68	5.75	172,951.80
2003	63,405.73	20.00	3,170.07	6.19	19,616.69
2004	254,969.71	20.00	12,747.62	6.64	84,653.38
2005	331,248.60	20.00	16,561.31	7.11	117,743.36
2006	461,499.83	20.00	23,073.43	7.60	175,245.55
2007	237,353.52	20.00	11,866.87	8.10	96,091.68
2008	663,670.88	20.00	33,181.30	8.62	285,954.42
2009	586,071.58	20.00	29,301.59	9.16	268,259.37
2010	1,127,282.59	20.00	56,360.31	9.71	547,295.06
2011	3,983,295.74	20.00	199,151.29	10.28	2,047,783.70
2012	2,443,701.71	20.00	122,176.81	10.87	1,328,336.71
2013	1,562,664.77	20.00	78,127.94	11.48	896,691.83
2014	1,790,345.30	20.00	89,511.20	12.10	1,082,945.52

FE 2025 Study - Pennsylvania Electric
Electric Division
373.00 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	1,709,859.02	20.00	85,487.16	12.73	1,088,504.43
2016	1,832,831.00	20.00	91,635.34	13.38	1,226,189.73
2017	1,443,700.70	20.00	72,180.14	14.04	1,013,412.12
2018	1,859,372.36	20.00	92,962.32	14.71	1,367,430.30
2019	1,939,044.75	20.00	96,945.67	15.39	1,491,690.23
2020	1,918,947.22	20.00	95,940.86	16.07	1,541,979.09
2021	1,960,944.44	20.00	98,040.58	16.77	1,643,666.82
2022	1,903,926.47	20.00	95,189.87	17.47	1,662,681.43
2023	2,459,831.14	20.00	122,983.22	18.18	2,235,536.26
2024	3,109,145.78	20.00	155,446.76	18.90	2,937,790.99
2025	3,544,007.99	20.00	177,188.39	19.63	3,478,334.12
Total	40,123,985.77	18.95	2,005,426.98	13.65	27,368,709.57

Composite Average Remaining Life ... 13.65 Years

FE 2025 Study - Pennsylvania Electric
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	650,478.70	20.00	32,521.73	13.38	435,179.40
2017	1,576,192.97	20.00	78,804.31	14.04	1,106,415.66
2018	1,200,165.82	20.00	60,004.23	14.71	882,632.84
2019	797,687.97	20.00	39,881.70	15.39	613,654.40
2020	767,747.15	20.00	38,384.76	16.07	616,926.84
2021	1,442,253.16	20.00	72,107.77	16.77	1,208,898.95
2022	842,166.32	20.00	42,105.46	17.47	735,456.08
2023	1,205,163.56	20.00	60,254.10	18.18	1,095,273.08
2024	1,505,201.41	20.00	75,254.97	18.90	1,422,245.03
2025	1,710,200.30	20.00	85,504.22	19.63	1,678,508.65
Total	11,697,257.36	20.00	584,823.24	16.75	9,795,190.95

Composite Average Remaining Life ... 16.75 Years

FE 2025 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1924	37.92	70.00	0.54	1.16	0.63
1927	911.57	70.00	13.02	1.77	23.01
1928	186.89	70.00	2.67	1.96	5.22
1929	2,572.91	70.00	36.76	2.20	80.88
1930	2,227.70	70.00	31.82	2.42	76.88
1934	956.87	70.00	13.67	3.40	46.54
1938	185.33	70.00	2.65	4.43	11.73
1939	28.66	70.00	0.41	4.71	1.93
1944	458.03	70.00	6.54	6.08	39.78
1947	1,667.90	70.00	23.83	6.99	166.56
1948	195.56	70.00	2.79	7.32	20.44
1949	5,672.32	70.00	81.03	7.65	619.92
1950	6,225.01	70.00	88.93	8.00	711.57
1951	3,956.89	70.00	56.53	8.37	472.97
1952	15,118.96	70.00	215.98	8.75	1,889.96
1953	12,634.60	70.00	180.49	9.15	1,651.75
1954	9,347.24	70.00	133.53	9.57	1,278.48
1955	2,565.27	70.00	36.65	10.02	367.04
1956	6,938.90	70.00	99.13	10.48	1,039.16
1957	8,759.48	70.00	125.13	10.97	1,372.65
1958	12,494.28	70.00	178.49	11.48	2,049.65
1959	4,086.08	70.00	58.37	12.02	701.45
1961	10.35	70.00	0.15	13.16	1.95
1962	6,586.81	70.00	94.10	13.76	1,294.33
1963	6,288.10	70.00	89.83	14.38	1,291.73
1964	759.50	70.00	10.85	15.02	162.92
1965	114.02	70.00	1.63	15.67	25.52

FE 2025 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1966	26,012.44	70.00	371.60	16.33	6,070.14
1967	3,938.91	70.00	56.27	17.01	957.09
1968	6,826.08	70.00	97.51	17.70	1,725.86
1969	3,017.90	70.00	43.11	18.39	792.94
1970	457.99	70.00	6.54	19.10	124.97
1971	8,140.97	70.00	116.30	19.81	2,304.43
1972	7,437.73	70.00	106.25	20.54	2,182.70
1973	5,716.69	70.00	81.67	21.28	1,737.72
1974	20,749.87	70.00	296.43	22.02	6,528.24
1975	13,866.84	70.00	198.10	22.78	4,513.54
1976	11,009.77	70.00	157.28	23.55	3,704.24
1977	5,612.15	70.00	80.17	24.33	1,950.92
1978	4,459.90	70.00	63.71	25.12	1,600.65
1979	27,596.62	70.00	394.24	25.93	10,220.93
1982	5,516.46	70.00	78.81	28.39	2,237.49
1984	13,139.06	70.00	187.70	30.09	5,647.36
1985	4,652.22	70.00	66.46	30.95	2,056.78
1986	35,655.34	70.00	509.36	31.82	16,207.61
1988	12,387.66	70.00	176.97	33.58	5,943.38
1989	36,476.60	70.00	521.09	34.48	17,968.87
1990	44,648.78	70.00	637.84	35.39	22,570.46
1991	20,227.30	70.00	288.96	36.30	10,488.89
1992	4,448.37	70.00	63.55	37.22	2,365.03
1993	139,044.03	70.00	1,986.33	38.14	75,763.76
1994	23,332.40	70.00	333.32	39.07	13,023.94
1995	855.80	70.00	12.23	40.01	489.15
1996	64,506.58	70.00	921.52	40.95	37,740.19

FE 2025 Study - Pennsylvania Power
Electric Division
361.10 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	224,646.51	70.00	3,209.22	51.60	165,601.18
2008	91,841.89	70.00	1,312.02	52.59	68,994.93
2009	143,672.32	70.00	2,052.45	53.57	109,957.10
2011	10,266.76	70.00	146.67	55.55	8,147.74
2014	24,648.35	70.00	352.12	58.53	20,609.63
2015	284,981.64	70.00	4,071.15	59.53	242,335.15
2016	433,622.32	70.00	6,194.57	60.52	374,897.37
2017	479,985.15	70.00	6,856.90	61.52	421,812.07
2018	23,365.79	70.00	333.80	62.51	20,866.56
2019	10,392.71	70.00	148.47	63.51	9,429.15
2020	339,856.88	70.00	4,855.07	64.51	313,190.46
2021	514,146.85	70.00	7,344.92	65.51	481,135.54
2022	202,946.73	70.00	2,899.22	66.50	192,810.67
2023	4,595.50	70.00	65.65	67.50	4,431.54
2024	41,571.86	70.00	593.88	68.50	40,681.84
2025	87,000.00	70.00	1,242.85	69.50	86,379.05
Total	3,578,262.87	70.00	51,117.79	55.43	2,833,601.92

Composite Average Remaining Life ... 55.43 Years

FE 2025 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1892	13,199.66	0.00	0.00	0.00	0.00
1902	5,876.85	0.00	0.00	0.00	0.00
1905	231.68	0.00	0.00	0.00	0.00
1910	39.90	0.00	0.00	0.00	0.00
1916	60,448.97	0.00	0.00	0.00	0.00
1924	43.93	70.00	0.63	1.16	0.73
1927	8,724.08	70.00	124.63	1.77	220.22
1928	177.84	70.00	2.54	1.96	4.97
1929	1,767.51	70.00	25.25	2.20	55.56
1930	14,505.87	70.00	207.23	2.42	500.63
1934	1,584.41	70.00	22.63	3.40	77.06
1937	73.90	70.00	1.06	4.16	4.39
1939	22.85	70.00	0.33	4.71	1.54
1940	2,686.64	70.00	38.38	4.96	190.43
1947	1,236.71	70.00	17.67	6.99	123.50
1948	143.92	70.00	2.06	7.32	15.04
1949	25,332.31	70.00	361.89	7.65	2,768.55
1950	5,551.99	70.00	79.31	8.00	634.64
1951	2,081.51	70.00	29.74	8.37	248.80
1952	33,072.03	70.00	472.46	8.75	4,134.19
1953	10,213.52	70.00	145.91	9.15	1,335.23
1954	6,627.96	70.00	94.68	9.57	906.55
1955	1,809.72	70.00	25.85	10.02	258.93
1956	4,607.45	70.00	65.82	10.48	690.01
1957	6,127.12	70.00	87.53	10.97	960.15
1958	14,126.41	70.00	201.80	11.48	2,317.40
1959	2,837.39	70.00	40.53	12.02	487.09

FE 2025 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1961	7.14	70.00	0.10	13.16	1.34
1962	4,535.32	70.00	64.79	13.76	891.21
1963	4,319.60	70.00	61.71	14.38	887.35
1964	5,403.39	70.00	77.19	15.02	1,159.07
1965	78.02	70.00	1.11	15.67	17.47
1966	8,856.75	70.00	126.52	16.33	2,066.77
1967	6,231.00	70.00	89.01	17.01	1,514.03
1968	4,648.62	70.00	66.41	17.70	1,175.33
1969	356.16	70.00	5.09	18.39	93.58
1970	311.02	70.00	4.44	19.10	84.87
1971	9,172.95	70.00	131.04	19.81	2,596.55
1972	5,037.91	70.00	71.97	20.54	1,478.44
1973	3,867.63	70.00	55.25	21.28	1,175.66
1974	13,131.54	70.00	187.59	22.02	4,131.39
1975	29,166.31	70.00	416.66	22.78	9,493.38
1976	39,705.43	70.00	567.22	23.55	13,358.90
1977	3,830.92	70.00	54.73	24.33	1,331.72
1978	17,998.16	70.00	257.12	25.12	6,459.53
1979	52,736.79	70.00	753.38	25.93	19,532.08
1982	28,737.55	70.00	410.53	28.39	11,656.00
1984	20,936.53	70.00	299.09	30.09	8,998.82
1985	6,426.42	70.00	91.81	30.95	2,841.16
1986	18,049.02	70.00	257.84	31.82	8,204.42
1988	8,340.21	70.00	119.15	33.58	4,001.48
1989	25,492.68	70.00	364.18	34.48	12,558.04
1990	51,854.52	70.00	740.78	35.39	26,213.05
1991	16,292.51	70.00	232.75	36.30	8,448.50

FE 2025 Study - Pennsylvania Power
Electric Division
361.11 Structures and Improvements - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1992	10,310.34	70.00	147.29	37.22	5,481.61
1993	43,358.46	70.00	619.40	38.14	23,625.61
1994	2,144.77	70.00	30.64	39.07	1,197.19
2013	104,744.96	70.00	1,496.35	57.54	86,095.11
2014	20,952.31	70.00	299.32	58.53	17,519.20
Total	790,187.07	64.07	10,148.38	29.58	300,224.48

Composite Average Remaining Life ... 29.58 Years

FE 2025 Study - Pennsylvania Power
Electric Division
361.20 Strucutres - Clearing and Grading
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1982	10,423.29	70.00	148.90	28.39	4,227.70
1984	22,196.95	70.00	317.10	30.09	9,540.57
1985	4,714.89	70.00	67.36	30.95	2,084.48
1986	27,260.71	70.00	389.44	31.82	12,391.72
1988	9,123.84	70.00	130.34	33.58	4,377.46
1989	32,176.26	70.00	459.66	34.48	15,850.47
1990	52,686.14	70.00	752.66	35.39	26,633.44
1991	55,883.01	70.00	798.32	36.30	28,978.21
1992	17,590.91	70.00	251.30	37.22	9,352.41
1993	43,941.89	70.00	627.74	38.14	23,943.52
1994	22,576.32	70.00	322.52	39.07	12,601.90
2005	137,521.89	70.00	1,964.59	49.64	97,517.43
2007	12,535.66	70.00	179.08	51.60	9,240.83
2022	5,665.87	70.00	80.94	66.50	5,382.89
Total	454,297.63	70.00	6,489.93	40.39	262,123.02

Composite Average Remaining Life ... 40.39 Years

FE 2025 Study - Pennsylvania Power
Electric Division
361.21 Structures - Clearing and Grading - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1982	13,229.30	70.00	188.99	28.39	5,365.83
1984	39,203.31	70.00	560.04	30.09	16,850.15
1985	3,143.26	70.00	44.90	30.95	1,389.66
1986	26,663.57	70.00	380.91	31.82	12,120.28
1988	6,076.93	70.00	86.81	33.58	2,915.60
1989	21,430.98	70.00	306.16	34.48	10,557.19
1990	23,239.46	70.00	331.99	35.39	11,747.81
1991	48,827.78	70.00	697.54	36.30	25,319.71
1992	12,619.20	70.00	180.27	37.22	6,709.14
1993	782.14	70.00	11.17	38.14	426.18
Total	195,215.93	70.00	2,788.79	33.49	93,401.55

Composite Average Remaining Life ... 33.49 Years

FE 2025 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	251.15	52.00	4.83	1.69	8.15
1927	2,796.44	52.00	53.78	2.02	108.68
1928	157.51	52.00	3.03	2.36	7.14
1929	23,181.45	52.00	445.79	2.70	1,202.91
1930	28,604.74	52.00	550.08	3.01	1,657.76
1931	29.19	52.00	0.56	3.32	1.86
1933	45.88	52.00	0.88	3.92	3.46
1936	416.20	52.00	8.00	4.80	38.43
1937	12.60	52.00	0.24	5.10	1.24
1938	94.81	52.00	1.82	5.40	9.85
1939	948.82	52.00	18.25	5.70	104.09
1940	6,299.08	52.00	121.13	6.01	728.30
1941	681.94	52.00	13.11	6.33	82.99
1942	364.68	52.00	7.01	6.64	46.58
1943	142.20	52.00	2.73	6.96	19.03
1944	4,222.89	52.00	81.21	7.28	591.47
1945	847.26	52.00	16.29	7.61	124.00
1946	2,100.86	52.00	40.40	7.94	320.90
1948	33,234.30	52.00	639.11	8.62	5,509.71
1949	29,394.66	52.00	565.27	8.97	5,068.81
1950	41,073.53	52.00	789.86	9.32	7,359.85
1951	10,872.65	52.00	209.08	9.67	2,022.61
1952	67,663.09	52.00	1,301.18	10.03	13,056.36
1953	162,508.41	52.00	3,125.09	10.40	32,500.08
1954	76,690.40	52.00	1,474.78	10.77	15,883.73
1955	19,190.71	52.00	369.04	11.15	4,113.63
1956	41,176.84	52.00	791.84	11.53	9,127.62

FE 2025 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1957	78,852.68	52.00	1,516.36	11.91	18,063.88
1958	96,490.42	52.00	1,855.54	12.30	22,829.77
1959	21,469.87	52.00	412.87	12.70	5,243.43
1960	16,075.34	52.00	309.13	13.10	4,050.17
1961	25,862.56	52.00	497.35	13.51	6,718.65
1962	49,339.44	52.00	948.81	13.92	13,209.34
1963	22,367.43	52.00	430.13	14.34	6,168.36
1964	17,435.17	52.00	335.28	14.76	4,950.46
1965	71,588.28	52.00	1,376.67	15.20	20,918.69
1966	135,108.46	52.00	2,598.18	15.63	40,612.95
1967	299,248.01	52.00	5,754.64	16.07	92,495.09
1968	228,911.02	52.00	4,402.04	16.52	72,727.33
1969	92,776.48	52.00	1,784.12	16.98	30,286.58
1970	101,200.89	52.00	1,946.13	17.44	33,932.99
1971	144,381.38	52.00	2,776.50	17.90	49,707.75
1972	149,805.88	52.00	2,880.82	18.38	52,938.52
1973	199,684.01	52.00	3,839.99	18.86	72,406.24
1974	421,255.73	52.00	8,100.89	19.34	156,686.85
1975	132,354.17	52.00	2,545.21	19.83	50,483.21
1976	126,237.81	52.00	2,427.60	20.33	49,362.13
1977	285,303.52	52.00	5,486.48	20.84	114,335.89
1978	413,174.31	52.00	7,945.48	21.35	169,652.07
1979	676,528.06	52.00	13,009.86	21.87	284,540.75
1980	349,533.88	52.00	6,721.65	22.40	150,544.87
1981	62,163.39	52.00	1,195.42	22.93	27,409.42
1982	177,127.18	52.00	3,406.21	23.47	79,937.36
1983	14,366.45	52.00	276.27	24.01	6,634.46

FE 2025 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1984	511,112.62	52.00	9,828.87	24.57	241,467.09
1985	182,115.14	52.00	3,502.13	25.13	87,997.00
1986	526,397.24	52.00	10,122.79	25.69	260,083.40
1987	255,394.91	52.00	4,911.33	26.27	128,999.04
1988	213,115.95	52.00	4,098.29	26.84	110,018.14
1989	731,920.14	52.00	14,075.07	27.43	386,087.69
1990	876,339.34	52.00	16,852.30	28.02	472,246.65
1991	1,847,917.95	52.00	35,536.08	28.62	1,017,079.21
1992	1,626,634.65	52.00	31,280.73	29.23	914,195.36
1993	1,228,684.74	52.00	23,628.02	29.83	704,937.95
1994	1,593,357.91	52.00	30,640.81	30.45	933,056.78
1995	525,724.75	52.00	10,109.86	31.07	314,151.38
1996	554,498.83	52.00	10,663.20	31.70	338,040.52
1997	355,059.81	52.00	6,827.92	32.33	220,779.54
1998	335,032.93	52.00	6,442.80	32.97	212,439.61
1999	635,253.33	52.00	12,216.13	33.62	410,664.30
2000	307,141.14	52.00	5,906.43	34.26	202,381.64
2001	1,165,886.98	52.00	22,420.40	34.92	782,859.45
2002	736,839.41	52.00	14,169.67	35.57	504,075.28
2003	307,848.42	52.00	5,920.03	36.24	214,513.97
2004	696,039.91	52.00	13,385.08	36.90	493,912.35
2005	4,625,054.58	52.00	88,941.34	37.57	3,341,418.75
2006	756,880.26	52.00	14,555.06	38.24	556,597.44
2007	3,122,915.61	52.00	60,054.71	38.92	2,337,054.37
2008	4,387,684.30	52.00	84,376.64	39.59	3,340,805.65
2009	2,758,253.93	52.00	53,042.14	40.28	2,136,296.43
2010	501,659.06	52.00	9,647.07	40.96	395,142.18

FE 2025 Study - Pennsylvania Power
Electric Division
362.00 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2011	504,853.40	52.00	9,708.50	41.65	404,329.70
2012	799,462.50	52.00	15,373.93	42.34	650,886.94
2013	1,342,685.31	52.00	25,820.29	43.03	1,111,050.90
2014	1,169,777.21	52.00	22,495.21	43.73	983,634.82
2015	7,044,647.82	52.00	135,470.93	44.43	6,018,428.58
2016	7,787,872.68	52.00	149,763.39	45.13	6,758,668.03
2017	6,167,181.36	52.00	118,596.96	45.84	5,435,952.98
2018	7,707,987.96	52.00	148,227.18	46.55	6,899,344.13
2019	7,324,085.20	52.00	140,844.61	47.26	6,656,158.83
2020	4,319,261.56	52.00	83,060.84	47.98	3,985,006.58
2021	9,484,372.64	52.00	182,387.65	48.70	8,882,106.46
2022	4,696,042.82	52.00	90,306.47	49.43	4,463,423.26
2023	9,411,075.53	52.00	180,978.13	50.16	9,077,096.32
2024	5,492,691.02	52.00	105,626.28	50.89	5,375,383.26
2025	9,835,810.62	52.00	189,145.92	51.63	9,765,575.13
Total	119,414,215.58	52.00	2,296,375.27	43.23	99,260,893.57

Composite Average Remaining Life ... 43.23 Years

FE 2025 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1909	40.98	0.00	0.00	0.00	0.00
1916	861.11	0.00	0.00	0.00	0.00
1927	1,731.94	52.00	33.31	2.02	67.31
1928	215.83	52.00	4.15	2.36	9.78
1929	38,683.64	52.00	743.90	2.70	2,007.34
1930	35,125.51	52.00	675.48	3.01	2,035.66
1931	448.56	52.00	8.63	3.32	28.64
1932	119.76	52.00	2.30	3.62	8.34
1937	242.53	52.00	4.66	5.10	23.78
1939	9,729.35	52.00	187.10	5.70	1,067.34
1940	463.18	52.00	8.91	6.01	53.55
1941	155.27	52.00	2.99	6.33	18.90
1942	180.15	52.00	3.46	6.64	23.01
1943	33.57	52.00	0.65	6.96	4.49
1944	1,084.35	52.00	20.85	7.28	151.88
1945	227.67	52.00	4.38	7.61	33.32
1946	1,237.39	52.00	23.80	7.94	189.00
1948	474.26	52.00	9.12	8.62	78.62
1949	40,566.38	52.00	780.11	8.97	6,995.25
1950	28,238.57	52.00	543.04	9.32	5,059.99
1951	33,716.86	52.00	648.39	9.67	6,272.26
1952	25,665.54	52.00	493.56	10.03	4,952.46
1953	43,204.17	52.00	830.83	10.40	8,640.41
1954	35,482.79	52.00	682.35	10.77	7,349.02
1955	12,355.33	52.00	237.60	11.15	2,648.43
1956	23,682.09	52.00	455.41	11.53	5,249.58
1957	32,688.35	52.00	628.61	11.91	7,488.37

FE 2025 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 52 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1958	94,284.88	52.00	1,813.13	12.30	22,307.94
1959	24,412.56	52.00	469.46	12.70	5,962.11
1960	5,854.39	52.00	112.58	13.10	1,475.01
1961	6,065.66	52.00	116.64	13.51	1,575.75
1962	23,605.23	52.00	453.94	13.92	6,319.68
1963	27,533.16	52.00	529.47	14.34	7,592.93
1964	8,356.48	52.00	160.70	14.76	2,372.70
1965	43,920.49	52.00	844.61	15.20	12,833.93
1966	59,043.71	52.00	1,135.43	15.63	17,748.25
1967	40,990.95	52.00	788.27	16.07	12,669.96
1968	47,851.85	52.00	920.21	16.52	15,203.01
1969	12,254.17	52.00	235.65	16.98	4,000.33
1970	29,170.47	52.00	560.96	17.44	9,780.95
1971	128,390.92	52.00	2,469.00	17.90	44,202.54
1972	38,831.64	52.00	746.75	18.38	13,722.36
1973	63,741.72	52.00	1,225.77	18.86	23,113.01
1974	68,228.94	52.00	1,312.07	19.34	25,377.88
1975	221,981.01	52.00	4,268.77	19.83	84,669.14
1976	140,859.19	52.00	2,708.77	20.33	55,079.45
1977	83,267.17	52.00	1,601.26	20.84	33,369.47
1978	371,996.75	52.00	7,153.62	21.35	152,744.30
1979	277,234.05	52.00	5,331.30	21.87	116,601.79
1980	38,819.47	52.00	746.51	22.40	16,719.62
1981	30,065.46	52.00	578.17	22.93	13,256.63
1982	133,673.48	52.00	2,570.59	23.47	60,326.74
1983	80,280.30	52.00	1,543.82	24.01	37,073.63
1984	277,364.09	52.00	5,333.80	24.57	131,036.29

FE 2025 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	153,842.12	52.00	2,958.44	25.13	74,335.63
1986	204,550.55	52.00	3,933.58	25.69	101,064.74
1987	867.27	52.00	16.68	26.27	438.05
1988	75,105.63	52.00	1,444.31	26.84	38,772.24
1989	174,219.74	52.00	3,350.30	27.43	91,900.87
1990	276,554.70	52.00	5,318.24	28.02	149,031.34
1991	538,723.95	52.00	10,359.84	28.62	296,509.34
1992	249,173.54	52.00	4,791.69	29.23	140,039.62
1993	312,934.65	52.00	6,017.84	29.83	179,541.18
1994	158,622.75	52.00	3,050.37	30.45	92,888.13
1995	151,544.70	52.00	2,914.26	31.07	90,556.85
1996	31,683.62	52.00	609.29	31.70	19,315.37
1997	973.25	52.00	18.72	32.33	605.18
1999	42,336.33	52.00	814.14	33.62	27,368.64
2000	107,198.70	52.00	2,061.47	34.26	70,635.44
2001	17,239.98	52.00	331.53	34.92	11,576.15
2002	84,216.88	52.00	1,619.52	35.57	57,613.16
2003	412,418.86	52.00	7,930.95	36.24	287,380.41
2006	125,664.82	52.00	2,416.58	38.24	92,411.87
2008	96,913.36	52.00	1,863.68	39.59	73,790.34
2011	38,953.47	52.00	749.09	41.65	31,197.26
2012	136,944.32	52.00	2,633.49	42.34	111,494.00
2013	40,835.91	52.00	785.29	43.03	33,791.07
2014	10,177.69	52.00	195.72	43.73	8,558.15
2015	658,018.29	52.00	12,653.91	44.43	562,162.39
2016	213,083.66	52.00	4,097.67	45.13	184,923.63
2017	543,639.12	52.00	10,454.36	45.84	479,181.09

FE 2025 Study - Pennsylvania Power
Electric Division
362.10 Station Equipment - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *52* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2018	857,055.31	52.00	16,481.46	46.55	767,141.77
2019	5,309.64	52.00	102.11	47.26	4,825.42
2020	11,793.83	52.00	226.80	47.98	10,881.14
2023	55,122.78	52.00	1,060.03	50.16	53,166.59
2024	65,597.05	52.00	1,261.45	50.89	64,196.09
Total	8,596,049.79	50.79	165,287.56	31.43	5,194,885.31

Composite Average Remaining Life ... 31.43 Years

FE 2025 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1927	106.42	65.00	1.64	8.95	14.66
1928	760.91	65.00	11.71	9.23	108.01
1929	22.57	65.00	0.35	9.51	3.30
1930	6.05	65.00	0.09	9.80	0.91
1931	2.56	65.00	0.04	10.08	0.40
1932	109.66	65.00	1.69	10.38	17.51
1933	78.93	65.00	1.21	10.67	12.96
1934	150.89	65.00	2.32	10.98	25.48
1935	110.28	65.00	1.70	11.28	19.13
1936	611.76	65.00	9.41	11.59	109.04
1937	56,036.55	65.00	862.09	11.89	10,253.86
1938	1,540.13	65.00	23.69	12.21	289.33
1939	3,807.62	65.00	58.58	12.53	733.88
1940	1,786.88	65.00	27.49	12.85	353.36
1941	2,051.17	65.00	31.56	13.18	415.94
1942	1,711.86	65.00	26.34	13.51	355.91
1943	1,082.60	65.00	16.66	13.85	230.75
1944	1,239.48	65.00	19.07	14.20	270.75
1945	1,585.52	65.00	24.39	14.55	354.92
1946	2,603.48	65.00	40.05	14.91	597.08
1947	7,011.46	65.00	107.87	15.27	1,647.29
1948	14,405.30	65.00	221.62	15.64	3,466.40
1949	26,318.54	65.00	404.90	16.02	6,485.98
1950	23,872.63	65.00	367.27	16.40	6,024.21
1951	43,654.38	65.00	671.60	16.79	11,279.04
1952	36,949.99	65.00	568.46	17.19	9,773.48
1953	71,898.68	65.00	1,106.12	17.60	19,466.81

FE 2025 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1954	75,439.41	65.00	1,160.59	18.01	20,906.09
1955	68,007.31	65.00	1,046.26	18.44	19,287.81
1956	106,387.13	65.00	1,636.71	18.86	30,875.44
1957	37,632.40	65.00	578.95	19.30	11,175.00
1958	110,733.57	65.00	1,703.58	19.75	33,640.54
1959	175,337.01	65.00	2,697.46	20.20	54,491.11
1960	184,949.93	65.00	2,845.35	20.66	58,789.86
1961	193,414.31	65.00	2,975.57	21.13	62,879.40
1962	219,926.14	65.00	3,383.44	21.61	73,111.63
1963	215,877.70	65.00	3,321.16	22.10	73,381.64
1964	268,917.35	65.00	4,137.15	22.59	93,449.47
1965	301,304.57	65.00	4,635.41	23.09	107,035.17
1966	403,364.72	65.00	6,205.55	23.60	146,446.97
1967	385,535.31	65.00	5,931.25	24.12	143,052.68
1968	379,780.47	65.00	5,842.72	24.64	143,992.30
1969	429,446.87	65.00	6,606.81	25.18	166,344.99
1970	406,252.13	65.00	6,249.97	25.72	160,749.08
1971	514,468.88	65.00	7,914.82	26.27	207,910.25
1972	523,038.05	65.00	8,046.66	26.83	215,861.49
1973	474,003.91	65.00	7,292.29	27.39	199,734.63
1974	638,736.24	65.00	9,826.61	27.96	274,780.54
1975	668,524.23	65.00	10,284.88	28.54	293,543.61
1976	554,968.38	65.00	8,537.89	29.13	248,702.67
1977	500,478.31	65.00	7,699.59	29.72	228,847.87
1978	764,039.19	65.00	11,754.33	30.32	356,446.21
1979	866,957.26	65.00	13,337.67	30.93	412,554.20
1980	1,173,862.43	65.00	18,059.23	31.55	569,736.88

FE 2025 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981	1,433,345.53	65.00	22,051.24	32.17	709,407.36
1982	1,236,028.22	65.00	19,015.62	32.80	623,693.98
1983	1,799,292.87	65.00	27,681.14	33.44	925,522.36
1984	1,351,223.51	65.00	20,787.84	34.08	708,371.36
1985	1,922,112.73	65.00	29,570.66	34.73	1,026,850.79
1986	1,690,372.14	65.00	26,005.45	35.38	920,045.14
1987	1,901,530.92	65.00	29,254.02	36.04	1,054,329.86
1988	2,195,291.27	65.00	33,773.36	36.71	1,239,688.83
1989	1,916,195.01	65.00	29,479.62	37.38	1,101,939.30
1990	2,171,715.50	65.00	33,410.66	38.06	1,271,502.88
1991	2,364,945.55	65.00	36,383.40	38.74	1,409,560.98
1992	2,463,245.24	65.00	37,895.69	39.43	1,494,226.28
1993	2,998,080.19	65.00	46,123.83	40.13	1,850,764.75
1994	3,082,927.17	65.00	47,429.15	40.83	1,936,363.27
1995	2,280,142.78	65.00	35,078.75	41.53	1,456,855.15
1996	2,592,119.56	65.00	39,878.35	42.24	1,684,524.84
1997	2,032,030.80	65.00	31,261.69	42.96	1,342,871.73
1998	2,843,036.87	65.00	43,738.57	43.68	1,910,329.18
1999	2,081,072.46	65.00	32,016.17	44.40	1,421,501.52
2000	2,079,909.20	65.00	31,998.27	45.13	1,444,045.24
2001	1,882,395.80	65.00	28,959.63	45.86	1,328,116.77
2002	2,122,572.89	65.00	32,654.63	46.60	1,521,671.01
2003	2,915,882.92	65.00	44,859.27	47.34	2,123,605.85
2004	1,982,266.62	65.00	30,496.09	48.09	1,466,417.62
2005	2,959,277.14	65.00	45,526.87	48.83	2,223,240.99
2006	2,570,055.19	65.00	39,538.90	49.59	1,960,636.75
2007	2,195,637.55	65.00	33,778.69	50.34	1,700,575.13

FE 2025 Study - Pennsylvania Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	3,311,737.37	65.00	50,949.28	51.10	2,603,744.82
2009	3,205,099.35	65.00	49,308.71	51.87	2,557,603.98
2010	3,802,745.96	65.00	58,503.17	52.64	3,079,403.23
2011	3,752,266.87	65.00	57,726.58	53.41	3,083,091.12
2012	3,170,224.76	65.00	48,772.18	54.18	2,642,625.36
2013	2,967,163.69	65.00	45,648.20	54.96	2,508,936.03
2014	3,977,276.81	65.00	61,188.24	55.74	3,410,886.88
2015	3,945,737.03	65.00	60,703.01	56.53	3,431,594.88
2016	5,487,560.72	65.00	84,423.13	57.32	4,839,114.21
2017	5,184,125.41	65.00	79,754.94	58.11	4,634,861.46
2018	6,410,314.84	65.00	98,619.20	58.91	5,809,635.32
2019	6,857,593.36	65.00	105,500.34	59.71	6,299,536.10
2020	7,003,927.89	65.00	107,751.61	60.52	6,520,630.04
2021	5,863,495.84	65.00	90,206.69	61.32	5,531,708.09
2022	5,872,330.12	65.00	90,342.60	62.13	5,613,356.74
2023	6,208,623.42	65.00	95,516.29	62.95	6,012,590.55
Total	147,023,828.58	65.00	2,261,881.50	49.04	110,916,015.65

Composite Average Remaining Life ... 49.04 Years

FE 2025 Study - Pennsylvania Power
Electric Division
364.10 Towers and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1947	7,576.09	75.00	101.01	9.47	956.92
Total	7,576.09	75.00	101.01	9.47	956.92

Composite Average Remaining Life ... 9.47 Years

FE 2025 Study - Pennsylvania Power
Electric Division
364.20 Poles and Fixtures - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2003	46,952.67	65.00	722.34	47.34	34,195.12
2004	236,216.87	65.00	3,634.07	48.09	174,745.71
2005	2,555.36	65.00	39.31	48.83	1,919.79
2006	6,476.78	65.00	99.64	49.59	4,940.99
2007	14,224.55	65.00	218.84	50.34	11,017.26
2008	96,716.34	65.00	1,487.93	51.10	76,040.05
2009	49,368.16	65.00	759.50	51.87	39,394.79
2010	18,769.11	65.00	288.75	52.64	15,198.93
2011	272,599.30	65.00	4,193.79	53.41	223,984.20
2012	65,118.54	65.00	1,001.81	54.18	54,281.30
2013	44,076.74	65.00	678.10	54.96	37,269.84
2015	133,275.70	65.00	2,050.37	56.53	115,909.45
2016	16,357.25	65.00	251.65	57.32	14,424.37
2017	238,662.16	65.00	3,671.69	58.11	213,375.63
2018	109,439.39	65.00	1,683.67	58.91	99,184.36
2021	5,291.23	65.00	81.40	61.32	4,991.82
2022	1,845.65	65.00	28.39	62.13	1,764.26
2023	46,563.28	65.00	716.35	62.95	45,093.08
2024	6,150,851.42	65.00	94,627.50	63.77	6,034,110.81
2025	13,376,534.40	65.00	205,790.69	64.59	13,291,646.04
Total	20,931,894.90	65.00	322,025.80	63.64	20,493,487.78

Composite Average Remaining Life ... 63.64 Years

FE 2025 Study - Pennsylvania Power
Electric Division
365.00 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	436.07	65.00	6.71	9.88	66.30
1927	715.96	65.00	11.01	10.22	112.59
1928	3,549.99	65.00	54.61	10.56	576.67
1929	3,805.31	65.00	58.54	10.90	638.22
1930	8,488.02	65.00	130.58	11.25	1,469.08
1931	5,204.08	65.00	80.06	11.60	928.74
1932	2,123.25	65.00	32.66	11.96	390.55
1933	1,938.57	65.00	29.82	12.31	367.25
1934	3,033.03	65.00	46.66	12.68	591.56
1935	4,494.59	65.00	69.15	13.04	901.90
1936	6,622.24	65.00	101.88	13.41	1,366.69
1937	18,947.34	65.00	291.49	13.79	4,019.23
1938	19,174.52	65.00	294.99	14.17	4,179.38
1939	13,449.96	65.00	206.92	14.55	3,010.65
1940	18,938.20	65.00	291.35	14.94	4,352.10
1941	22,018.99	65.00	338.75	15.33	5,192.33
1942	5,666.85	65.00	87.18	15.72	1,370.76
1943	4,173.70	65.00	64.21	16.12	1,035.27
1944	6,189.43	65.00	95.22	16.53	1,573.72
1945	18,493.08	65.00	284.50	16.94	4,818.32
1946	28,809.72	65.00	443.22	17.35	7,689.29
1947	61,825.39	65.00	951.14	17.77	16,898.38
1948	85,261.26	65.00	1,311.69	18.19	23,857.56
1949	93,795.73	65.00	1,442.98	18.62	26,861.42
1950	131,327.11	65.00	2,020.38	19.05	38,481.43
1951	133,571.48	65.00	2,054.91	19.48	40,035.03
1952	132,090.44	65.00	2,032.12	19.92	40,487.45

FE 2025 Study - Pennsylvania Power
Electric Division
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1953	158,414.45	65.00	2,437.10	20.37	49,641.76
1954	176,651.74	65.00	2,717.67	20.82	56,582.18
1955	144,255.00	65.00	2,219.27	21.28	47,216.75
1956	150,071.15	65.00	2,308.74	21.74	50,183.27
1957	241,567.88	65.00	3,716.36	22.20	82,510.52
1958	212,021.86	65.00	3,261.81	22.67	73,952.80
1959	250,789.96	65.00	3,858.24	23.15	89,311.81
1960	232,604.66	65.00	3,578.47	23.63	84,554.87
1961	249,801.29	65.00	3,843.03	24.12	92,675.74
1962	397,873.75	65.00	6,121.02	24.61	150,613.93
1963	266,130.37	65.00	4,094.24	25.10	102,778.10
1964	272,058.96	65.00	4,185.44	25.60	107,164.96
1965	299,305.16	65.00	4,604.61	26.11	120,235.69
1966	371,594.74	65.00	5,716.74	26.62	152,200.04
1967	311,992.54	65.00	4,799.80	27.14	130,277.18
1968	351,147.66	65.00	5,402.17	27.67	149,455.03
1969	346,538.43	65.00	5,331.26	28.19	150,308.71
1970	288,965.96	65.00	4,445.55	28.73	127,712.61
1971	412,954.65	65.00	6,353.03	29.27	185,933.73
1972	353,595.33	65.00	5,439.83	29.81	162,173.19
1973	418,502.18	65.00	6,438.38	30.36	195,479.01
1974	328,309.23	65.00	5,050.82	30.92	156,159.44
1975	274,472.24	65.00	4,222.57	31.48	132,916.27
1976	229,397.42	65.00	3,529.13	32.04	113,088.91
1977	232,867.37	65.00	3,582.51	32.61	116,842.91
1978	442,869.63	65.00	6,813.25	33.19	226,148.04
1979	336,633.78	65.00	5,178.88	33.77	174,906.81

FE 2025 Study - Pennsylvania Power
Electric Division
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1980	554,400.51	65.00	8,529.08	34.36	293,068.39
1981	445,828.21	65.00	6,858.77	34.95	239,737.97
1982	313,485.84	65.00	4,822.77	35.55	171,449.87
1983	472,490.57	65.00	7,268.95	36.15	262,791.54
1984	589,012.50	65.00	9,061.56	36.76	333,093.07
1985	1,040,889.52	65.00	16,013.39	37.37	598,439.44
1986	669,200.94	65.00	10,295.21	37.99	391,082.76
1987	587,210.73	65.00	9,033.84	38.61	348,783.65
1988	1,083,031.20	65.00	16,661.71	39.23	653,692.50
1989	838,986.61	65.00	12,907.25	39.86	514,532.76
1990	1,181,036.17	65.00	18,169.45	40.50	735,809.70
1991	1,668,756.55	65.00	25,672.70	41.14	1,056,077.63
1992	1,568,553.57	65.00	24,131.14	41.78	1,008,138.65
1993	1,667,060.79	65.00	25,646.61	42.42	1,088,046.44
1994	1,582,929.32	65.00	24,352.30	43.07	1,048,969.65
1995	2,694,073.32	65.00	41,446.51	43.73	1,812,365.06
1996	2,535,819.67	65.00	39,011.88	44.39	1,731,547.42
1997	1,793,066.34	65.00	27,585.12	45.04	1,242,567.81
1998	1,480,981.94	65.00	22,783.91	45.71	1,041,423.01
1999	1,581,945.30	65.00	24,337.17	46.37	1,128,625.13
2000	1,314,368.73	65.00	20,220.68	47.04	951,268.82
2001	1,060,111.59	65.00	16,309.10	47.72	778,201.72
2002	1,665,695.11	65.00	25,625.60	48.39	1,240,049.02
2003	2,357,881.39	65.00	36,274.42	49.07	1,779,896.76
2004	2,985,533.61	65.00	45,930.43	49.75	2,284,937.00
2005	4,431,688.96	65.00	68,178.56	50.43	3,438,177.82
2006	3,394,757.13	65.00	52,226.06	51.11	2,669,480.16

FE 2025 Study - Pennsylvania Power
Electric Division
365.00 Overhead Conductors and Devices
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And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	4,082,739.81	65.00	62,810.21	51.80	3,253,613.87
2008	4,183,905.31	65.00	64,366.57	52.49	3,378,552.01
2009	3,980,281.00	65.00	61,233.95	53.18	3,256,467.09
2010	4,218,412.69	65.00	64,897.45	53.87	3,496,284.78
2011	5,404,611.80	65.00	83,146.32	54.57	4,537,345.49
2012	4,748,290.85	65.00	73,049.27	55.27	4,037,356.30
2013	4,488,077.08	65.00	69,046.05	55.97	3,864,576.60
2014	6,113,589.21	65.00	94,053.46	56.67	5,330,457.81
2015	7,132,790.92	65.00	109,733.20	57.38	6,296,774.44
2016	8,993,731.36	65.00	138,362.52	58.09	8,037,767.66
2017	8,494,780.29	65.00	130,686.49	58.81	7,685,148.14
2018	10,087,274.49	65.00	155,185.94	59.52	9,236,905.05
2019	13,845,850.93	65.00	213,009.12	60.24	12,832,058.06
2020	11,591,111.10	65.00	178,321.46	60.96	10,871,349.07
2021	8,639,555.63	65.00	132,913.76	61.69	8,199,534.53
2022	8,408,836.57	65.00	129,364.30	62.42	8,074,987.22
2023	7,312,559.65	65.00	112,498.82	63.15	7,104,639.80
2024	12,193,624.19	65.00	187,590.72	63.89	11,985,165.07
2025	18,062,820.43	65.00	277,884.36	64.63	17,959,518.98
Total	202,127,171.13	65.00	3,109,590.79	55.25	171,793,051.86

Composite Average Remaining Life ... 55.25 Years

FE 2025 Study - Pennsylvania Power
Electric Division
365.01 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1913	29,386.00	65.00	452.08	5.81	2,626.55
1916	13.62	65.00	0.21	6.71	1.41
1923	2,178.06	65.00	33.51	8.90	298.16
1925	6.98	65.00	0.11	9.55	1.03
1927	8,088.50	65.00	124.44	10.22	1,271.96
1928	1,537.08	65.00	23.65	10.56	249.69
1929	3,641.76	65.00	56.03	10.90	610.79
1930	1,910.06	65.00	29.38	11.25	330.59
1934	113.13	65.00	1.74	12.68	22.06
1936	45.31	65.00	0.70	13.41	9.35
1937	1,008.70	65.00	15.52	13.79	213.97
1938	287.78	65.00	4.43	14.17	62.73
1939	2,447.56	65.00	37.65	14.55	547.86
1940	874.77	65.00	13.46	14.94	201.03
1941	1,451.78	65.00	22.33	15.33	342.35
1942	2,313.57	65.00	35.59	15.72	559.63
1943	173.55	65.00	2.67	16.12	43.05
1944	6.83	65.00	0.11	16.53	1.74
1945	180.46	65.00	2.78	16.94	47.02
1946	155.69	65.00	2.40	17.35	41.55
1947	10,507.58	65.00	161.65	17.77	2,871.98
1948	7,002.27	65.00	107.73	18.19	1,959.36
1949	22,220.55	65.00	341.85	18.62	6,363.57
1950	2,866.22	65.00	44.09	19.05	839.86
1951	7,960.80	65.00	122.47	19.48	2,386.07
1952	14,423.94	65.00	221.90	19.92	4,421.13
1953	5,221.82	65.00	80.33	20.37	1,636.34

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And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1954	18,134.94	65.00	278.99	20.82	5,808.69
1955	14,961.51	65.00	230.17	21.28	4,897.12
1956	1,219.79	65.00	18.77	21.74	407.89
1957	5,263.85	65.00	80.98	22.20	1,797.93
1958	2,868.18	65.00	44.13	22.67	1,000.42
1959	7,531.86	65.00	115.87	23.15	2,682.26
1960	679.20	65.00	10.45	23.63	246.90
1961	2,007.61	65.00	30.89	24.12	744.82
1962	6,497.23	65.00	99.96	24.61	2,459.51
1963	1,011.58	65.00	15.56	25.10	390.67
1964	8,286.91	65.00	127.49	25.60	3,264.24
1965	9,238.07	65.00	142.12	26.11	3,711.08
1966	8,492.25	65.00	130.65	26.62	3,478.31
1967	24,528.79	65.00	377.36	27.14	10,242.37
1968	23,710.69	65.00	364.77	27.67	10,091.71
1969	17,838.09	65.00	274.43	28.19	7,737.15
1970	36,907.85	65.00	567.80	28.73	16,311.95
1971	12,447.78	65.00	191.50	29.27	5,604.64
1972	32,350.36	65.00	497.69	29.81	14,837.19
1973	88,068.76	65.00	1,354.88	30.36	41,136.21
1974	4,552.88	65.00	70.04	30.92	2,165.57
1975	1,847.36	65.00	28.42	31.48	894.60
1976	2,678.48	65.00	41.21	32.04	1,320.44
1977	818.55	65.00	12.59	32.61	410.71
1978	304.53	65.00	4.68	33.19	155.51
1979	23,542.48	65.00	362.19	33.77	12,232.11
1980	1,253.57	65.00	19.29	34.36	662.66

FE 2025 Study - Pennsylvania Power
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1981	3,085.21	65.00	47.46	34.95	1,659.03
1982	4,719.35	65.00	72.60	35.55	2,581.08
1983	3,399.92	65.00	52.31	36.15	1,890.98
1984	25,100.87	65.00	386.16	36.76	14,194.82
1985	5,544.47	65.00	85.30	37.37	3,187.69
1986	165,760.26	65.00	2,550.11	37.99	96,870.72
1987	15,518.28	65.00	238.74	38.61	9,217.34
1988	5,249.01	65.00	80.75	39.23	3,168.18
1989	6,336.79	65.00	97.49	39.86	3,886.22
1990	7,227.17	65.00	111.19	40.50	4,502.67
1991	12,484.49	65.00	192.07	41.14	7,900.85
1992	15,690.38	65.00	241.39	41.78	10,084.50
1993	11,266.70	65.00	173.33	42.42	7,353.48
1994	12,798.70	65.00	196.90	43.07	8,481.39
1996	68,704.51	65.00	1,056.97	44.39	46,913.87
1997	1,954.42	65.00	30.07	45.04	1,354.38
1998	8,508.98	65.00	130.90	45.71	5,983.49
1999	81.74	65.00	1.26	46.37	58.32
2000	7,536.16	65.00	115.94	47.04	5,454.26
2001	9,062.63	65.00	139.42	47.72	6,652.65
2002	46,603.02	65.00	716.96	48.39	34,694.24
2003	30,236.03	65.00	465.16	49.07	22,824.31
2004	270,112.12	65.00	4,155.49	49.75	206,726.59
2005	7,335.56	65.00	112.85	50.43	5,691.05
2006	995.53	65.00	15.32	51.11	782.84
2007	35,594.21	65.00	547.59	51.80	28,365.71
2008	118,310.73	65.00	1,820.13	52.49	95,537.29

FE 2025 Study - Pennsylvania Power
Electric Division
365.01 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2009	121,985.20	65.00	1,876.66	53.18	99,802.20
2010	67,909.64	65.00	1,044.74	53.87	56,284.55
2011	218,949.87	65.00	3,368.40	54.57	183,815.46
2012	148,694.61	65.00	2,287.57	55.27	126,431.41
2013	117,096.69	65.00	1,801.45	55.97	100,829.18
2014	19,206.81	65.00	295.48	56.67	16,746.48
2015	245,476.73	65.00	3,776.49	57.38	216,705.02
2016	50,119.72	65.00	771.06	58.09	44,792.38
2017	606,119.32	65.00	9,324.74	58.81	548,350.47
2018	112,186.18	65.00	1,725.91	59.52	102,728.75
2020	10,997.56	65.00	169.19	60.96	10,314.66
2021	37,294.92	65.00	573.76	61.69	35,395.45
2022	3,190.67	65.00	49.09	62.42	3,063.99
2023	191,117.58	65.00	2,940.22	63.15	185,683.49
Total	3,332,630.26	65.00	51,270.28	49.73	2,549,614.91

Composite Average Remaining Life ... 49.73 Years

FE 2025 Study - Pennsylvania Power
Electric Division
365.10 Overhead Conductors - Clearing and Grading
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *64* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2004	149,196.07	64.00	2,331.14	48.76	113,659.06
2007	1,124,793.26	64.00	17,574.56	50.81	892,925.44
2008	11,514,810.25	64.00	179,915.52	51.50	9,264,988.13
2009	2,680,789.05	64.00	41,886.54	52.19	2,185,908.23
2010	6,827,436.70	64.00	106,676.69	52.88	5,641,050.79
2011	3,990,494.35	64.00	62,350.30	53.57	3,340,409.10
2012	434,935.88	64.00	6,795.75	54.27	368,830.13
2013	11,736,737.00	64.00	183,383.06	54.97	10,081,282.53
2014	5,546,949.12	64.00	86,669.45	55.68	4,825,618.73
2015	3,368,514.59	64.00	52,632.05	56.39	2,967,682.71
2016	1,510,135.68	64.00	23,595.43	57.09	1,347,175.37
2017	14,989,852.30	64.00	234,212.03	57.81	13,539,326.47
2018	4,896,934.38	64.00	76,513.16	58.52	4,477,806.24
2019	3,964,783.38	64.00	61,948.57	59.24	3,670,024.11
2020	2,838,505.98	64.00	44,350.82	59.96	2,659,487.37
2021	2,265,759.04	64.00	35,401.82	60.69	2,148,582.88
2023	654,141.85	64.00	10,220.77	62.15	635,254.57
Total	78,494,768.88	64.00	1,226,457.68	55.57	68,160,011.87

Composite Average Remaining Life ... 55.57 Years

FE 2025 Study - Pennsylvania Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1924	1,019.27	70.00	14.56	7.05	102.69
1927	15,869.98	70.00	226.71	7.74	1,754.00
1930	1,121.35	70.00	16.02	8.43	135.08
1938	108.03	70.00	1.54	10.47	16.15
1940	15,969.18	70.00	228.13	11.03	2,515.68
1942	411.72	70.00	5.88	11.62	68.35
1948	393.79	70.00	5.63	13.63	76.70
1949	434.85	70.00	6.21	14.01	87.01
1955	30.70	70.00	0.44	16.50	7.24
1956	1,230.74	70.00	17.58	16.96	298.17
1957	14,724.56	70.00	210.35	17.43	3,666.30
1958	2,426.28	70.00	34.66	17.91	620.93
1959	824.28	70.00	11.78	18.41	216.78
1960	20.42	70.00	0.29	18.92	5.52
1965	24,496.24	70.00	349.95	21.64	7,572.80
1966	8,357.82	70.00	119.40	22.22	2,652.70
1967	24,996.81	70.00	357.10	22.80	8,143.44
1968	12,304.87	70.00	175.78	23.41	4,114.57
1969	12,169.25	70.00	173.85	24.02	4,175.02
1970	98,711.05	70.00	1,410.16	24.64	34,743.31
1971	70,117.34	70.00	1,001.67	25.27	25,309.28
1972	20,961.58	70.00	299.45	25.91	7,758.23
1973	56,525.89	70.00	807.51	26.56	21,444.85
1974	177,631.34	70.00	2,537.59	27.21	69,056.02
1975	81,601.13	70.00	1,165.73	27.88	32,504.12
1976	27,710.04	70.00	395.86	28.56	11,304.79
1977	6,893.44	70.00	98.48	29.24	2,879.90

FE 2025 Study - Pennsylvania Power
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366.00 Underground Conduit

Original Cost Of Utility Plant In Service
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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1978	34,307.54	70.00	490.11	29.94	14,671.91
1979	39,105.36	70.00	558.65	30.64	17,116.12
1980	17,997.87	70.00	257.11	31.35	8,059.68
1981	27,490.49	70.00	392.72	32.06	12,591.48
1982	30,737.69	70.00	439.11	32.79	14,397.92
1983	22,674.44	70.00	323.92	33.52	10,857.71
1984	17,004.13	70.00	242.92	34.26	8,322.49
1985	21,171.61	70.00	302.45	35.01	10,587.77
1986	52,379.54	70.00	748.28	35.76	26,759.53
1987	22,231.75	70.00	317.60	36.52	11,599.15
1988	48,301.18	70.00	690.02	37.29	25,729.27
1989	47,098.74	70.00	672.84	38.06	25,611.12
1990	58,501.67	70.00	835.74	38.84	32,463.64
1991	57,640.27	70.00	823.43	39.63	32,635.42
1992	82,777.72	70.00	1,182.54	40.43	47,806.19
1993	82,121.32	70.00	1,173.16	41.23	48,367.37
1994	519,226.07	70.00	7,417.51	42.03	311,791.41
1995	614,406.12	70.00	8,777.22	42.85	376,070.25
1996	847,611.87	70.00	12,108.72	43.67	528,749.02
1997	485,860.79	70.00	6,940.86	44.49	308,803.72
1998	501,323.83	70.00	7,161.76	45.32	324,589.93
1999	456,668.71	70.00	6,523.83	46.16	301,129.62
2000	159,523.97	70.00	2,278.91	47.00	107,111.76
2001	147,619.89	70.00	2,108.85	47.85	100,905.27
2002	131,176.97	70.00	1,873.95	48.70	91,262.11
2003	290,707.25	70.00	4,152.96	49.56	205,820.01
2004	192,330.09	70.00	2,747.57	50.42	138,539.11

FE 2025 Study - Pennsylvania Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	178,308.20	70.00	2,547.26	51.29	130,653.48
2006	199,115.79	70.00	2,844.51	52.16	148,382.52
2007	102,953.36	70.00	1,470.76	53.04	78,014.04
2008	176,894.53	70.00	2,527.06	53.93	136,273.67
2009	86,135.81	70.00	1,230.51	54.81	67,446.91
2010	82,877.06	70.00	1,183.96	55.71	65,952.30
2011	196,602.61	70.00	2,808.60	56.60	158,968.01
2012	119,307.09	70.00	1,704.38	57.50	98,004.40
2013	418,380.42	70.00	5,976.86	58.41	349,078.84
2014	188,806.92	70.00	2,697.24	59.31	159,983.37
2015	126,944.95	70.00	1,813.50	60.23	109,218.61
2016	162,397.94	70.00	2,319.97	61.14	141,843.58
2017	83,151.61	70.00	1,187.88	62.06	73,720.18
2018	74,861.39	70.00	1,069.45	62.98	67,356.38
2019	24,707.36	70.00	352.96	63.91	22,557.42
2020	25,414.45	70.00	363.06	64.84	23,540.18
2021	27,461.44	70.00	392.31	65.77	25,802.06
2022	90,758.63	70.00	1,296.55	66.71	86,486.65
2023	16,885.32	70.00	241.22	67.64	16,316.67
2024	76,524.66	70.00	1,093.21	68.58	74,976.70
2025	89,374.56	70.00	1,276.78	69.53	88,770.69
Total	8,232,922.93	70.00	117,613.03	46.82	5,506,925.24

Composite Average Remaining Life ... 46.82 Years

FE 2025 Study - Pennsylvania Power
Electric Division
366.10 Underground Conduit - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	64,301.63	70.00	918.59	26.56	24,394.82
2000	352.23	70.00	5.03	47.00	236.50
Total	64,653.86	70.00	923.63	26.67	24,631.32

Composite Average Remaining Life ... 26.67 Years

FE 2025 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	8,983.39	50.00	179.67	8.66	1,556.48
1968	19,877.72	50.00	397.55	8.99	3,574.15
1969	14,225.39	50.00	284.51	9.33	2,655.06
1970	80,549.17	50.00	1,610.98	9.69	15,609.11
1971	107,075.42	50.00	2,141.50	10.06	21,548.35
1972	160,259.95	50.00	3,205.19	10.45	33,500.10
1973	143,221.68	50.00	2,864.43	10.86	31,102.94
1974	126,505.18	50.00	2,530.10	11.28	28,544.87
1975	211,922.48	50.00	4,238.44	11.72	49,688.68
1976	130,206.77	50.00	2,604.13	12.18	31,723.72
1977	73,362.03	50.00	1,467.24	12.66	18,572.75
1978	133,037.40	50.00	2,660.74	13.15	34,993.89
1979	220,701.81	50.00	4,414.03	13.66	60,307.53
1980	263,507.40	50.00	5,270.13	14.19	74,785.16
1981	346,701.02	50.00	6,934.00	14.73	102,169.54
1982	206,226.48	50.00	4,124.52	15.29	63,084.15
1983	272,301.96	50.00	5,446.03	15.87	86,433.61
1984	386,386.77	50.00	7,727.72	16.46	127,215.48
1985	341,405.48	50.00	6,828.09	17.07	116,543.72
1986	645,313.30	50.00	12,906.23	17.69	228,292.87
1987	618,002.51	50.00	12,360.02	18.32	226,468.35
1988	1,118,060.77	50.00	22,361.16	18.97	424,192.06
1989	770,047.87	50.00	15,400.92	19.63	302,324.17
1990	1,097,422.50	50.00	21,948.40	20.30	445,616.39
1991	1,116,357.42	50.00	22,327.09	20.99	468,591.16
1992	1,459,800.42	50.00	29,195.94	21.68	633,079.43
1993	1,881,189.39	50.00	37,623.69	22.39	842,445.27

FE 2025 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	3,172,412.55	50.00	63,448.09	23.11	1,466,273.77
1995	1,130,182.81	50.00	22,603.60	23.84	538,845.45
1996	1,318,987.47	50.00	26,379.68	24.58	648,370.22
1997	1,941,469.51	50.00	38,829.29	25.33	983,467.08
1998	2,726,876.17	50.00	54,537.39	26.09	1,422,739.18
1999	5,603,290.73	50.00	112,065.54	26.86	3,009,686.83
2000	1,277,074.31	50.00	25,541.42	27.63	705,837.15
2001	1,199,457.48	50.00	23,989.09	28.42	681,835.25
2002	1,463,935.91	50.00	29,278.65	29.22	855,506.19
2003	1,813,646.37	50.00	36,272.84	30.03	1,089,092.17
2004	1,513,156.02	50.00	30,263.05	30.84	933,286.92
2005	2,115,477.24	50.00	42,309.44	31.66	1,339,589.33
2006	1,777,351.59	50.00	35,546.94	32.49	1,155,007.64
2007	1,057,759.07	50.00	21,155.13	33.33	705,125.61
2008	1,032,738.78	50.00	20,654.72	34.18	705,930.45
2009	1,570,606.37	50.00	31,412.05	35.03	1,100,417.59
2010	1,043,141.12	50.00	20,862.77	35.89	748,828.19
2011	2,569,735.56	50.00	51,394.58	36.76	1,889,339.23
2012	2,726,834.99	50.00	54,536.56	37.64	2,052,576.15
2013	2,801,062.20	50.00	56,021.10	38.52	2,157,851.73
2014	2,841,537.85	50.00	56,830.62	39.41	2,239,510.00
2015	3,914,021.04	50.00	78,280.23	40.30	3,154,776.92
2016	3,908,949.18	50.00	78,178.79	41.20	3,221,064.48
2017	4,500,788.07	50.00	90,015.54	42.11	3,790,290.88
2018	5,034,198.59	50.00	100,683.72	43.02	4,331,239.10
2019	3,831,749.84	50.00	76,634.81	43.93	3,366,919.20
2020	3,183,123.71	50.00	63,662.32	44.86	2,855,626.42

FE 2025 Study - Pennsylvania Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	3,276,342.04	50.00	65,526.68	45.78	2,999,924.84
2022	4,131,260.35	50.00	82,625.00	46.71	3,859,586.04
2023	3,747,592.34	50.00	74,951.66	47.65	3,571,195.51
2024	5,347,283.29	50.00	106,945.40	48.59	5,195,965.76
2025	8,335,542.10	50.00	166,710.43	49.53	8,256,765.14
Total	103,860,236.33	50.00	2,077,199.57	36.35	75,507,089.41

Composite Average Remaining Life ... 36.35 Years

FE 2025 Study - Pennsylvania Power
Electric Division
367.10 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *50* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1973	34,544.79	50.00	690.89	10.86	7,501.97
2000	490.91	50.00	9.82	27.63	271.33
2009	1,034.11	50.00	20.68	35.03	724.53
2012	68,827.49	50.00	1,376.55	37.64	51,808.66
2014	0.04	50.00	0.00	39.41	0.03
2016	0.12	50.00	0.00	41.20	0.10
2018	0.13	50.00	0.00	43.02	0.11
2019	3,183.54	50.00	63.67	43.93	2,797.34
Total	108,081.13	50.00	2,161.62	29.19	63,104.07

Composite Average Remaining Life ... 29.19 Years

FE 2025 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1929	2,756.95	0.00	0.00	0.00	0.00
1930	2,802.46	0.00	0.00	0.00	0.00
1931	1,889.51	0.00	0.00	0.00	0.00
1932	642.87	0.00	0.00	0.00	0.00
1933	1,255.97	0.00	0.00	0.00	0.00
1934	1,251.58	0.00	0.00	0.00	0.00
1935	1,198.13	0.00	0.00	0.00	0.00
1936	53.51	0.00	0.00	0.00	0.00
1937	152.86	0.00	0.00	0.00	0.00
1938	134.01	0.00	0.00	0.00	0.00
1939	97.18	0.00	0.00	0.00	0.00
1940	7.25	43.00	0.17	0.50	0.08
1941	4.91	43.00	0.11	0.71	0.08
1942	2,449.62	43.00	56.97	0.99	56.46
1943	908.48	43.00	21.13	1.33	28.02
1944	975.94	43.00	22.70	1.66	37.73
1945	8,674.98	43.00	201.74	1.99	401.17
1946	3,853.41	43.00	89.61	2.32	208.06
1948	8,469.17	43.00	196.95	2.90	570.33
1949	210.79	43.00	4.90	3.15	15.43
1950	69.09	43.00	1.61	3.39	5.44
1951	1,647.89	43.00	38.32	3.60	137.98
1952	3,120.05	43.00	72.56	3.83	277.73
1953	6,966.88	43.00	162.02	4.06	657.55
1955	133.33	43.00	3.10	4.53	14.04
1956	2,769.07	43.00	64.40	4.78	307.63
1957	72,147.35	43.00	1,677.82	5.03	8,434.36

FE 2025 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1958	87,687.06	43.00	2,039.20	5.29	10,787.19
1959	140,041.20	43.00	3,256.72	5.56	18,106.02
1960	106,424.77	43.00	2,474.96	5.83	14,427.77
1961	101,751.82	43.00	2,366.29	6.11	14,456.39
1962	87,759.14	43.00	2,040.88	6.39	13,050.62
1963	103,875.74	43.00	2,415.68	6.68	16,138.14
1964	97,069.06	43.00	2,257.39	6.97	15,744.96
1965	83,766.01	43.00	1,948.02	7.27	14,171.03
1966	138,193.20	43.00	3,213.75	7.58	24,349.31
1967	303,204.73	43.00	7,051.17	7.89	55,611.78
1968	208,826.19	43.00	4,856.35	8.20	39,840.25
1969	206,205.58	43.00	4,795.41	8.53	40,882.72
1970	215,012.10	43.00	5,000.21	8.86	44,282.43
1971	262,543.31	43.00	6,105.57	9.20	56,141.11
1972	306,988.78	43.00	7,139.17	9.54	68,118.34
1973	305,706.18	43.00	7,109.34	9.90	70,368.61
1974	361,697.17	43.00	8,411.44	10.26	86,338.32
1975	310,297.57	43.00	7,216.12	10.64	76,783.43
1976	388,135.62	43.00	9,026.28	11.03	99,538.95
1977	496,665.33	43.00	11,550.18	11.43	131,970.33
1978	662,849.35	43.00	15,414.87	11.84	182,441.92
1979	845,558.04	43.00	19,663.85	12.26	241,012.09
1980	708,244.16	43.00	16,470.55	12.69	209,002.82
1981	699,910.95	43.00	16,276.76	13.13	213,793.38
1982	830,898.91	43.00	19,322.94	13.59	262,638.16
1983	774,578.61	43.00	18,013.19	14.06	253,286.68
1984	980,531.02	43.00	22,802.71	14.54	331,604.26

FE 2025 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1985	811,945.83	43.00	18,882.18	15.04	283,934.17
1986	1,332,409.55	43.00	30,985.81	15.54	481,608.20
1987	1,138,188.16	43.00	26,469.10	16.06	425,104.47
1988	1,319,205.04	43.00	30,678.73	16.59	509,010.04
1989	1,149,999.43	43.00	26,743.77	17.13	458,207.84
1990	1,474,914.01	43.00	34,299.82	17.69	606,637.01
1991	1,159,470.04	43.00	26,964.02	18.25	492,164.75
1992	1,593,142.11	43.00	37,049.26	18.83	697,594.32
1993	1,440,309.99	43.00	33,495.08	19.42	650,336.38
1994	1,372,526.72	43.00	31,918.75	20.02	638,871.96
1995	1,362,352.09	43.00	31,682.13	20.62	653,427.50
1996	1,267,804.01	43.00	29,483.38	21.24	626,331.72
1997	1,084,168.94	43.00	25,212.86	21.87	551,517.73
1998	1,542,757.39	43.00	35,877.54	22.51	807,744.31
1999	1,172,333.75	43.00	27,263.17	23.16	631,490.84
2000	781,522.38	43.00	18,174.67	23.82	432,966.60
2001	866,664.20	43.00	20,154.68	24.49	493,590.64
2002	1,034,803.53	43.00	24,064.84	25.17	605,622.46
2003	2,657,026.60	43.00	61,790.40	25.85	1,597,424.68
2004	4,900,200.98	43.00	113,956.47	26.55	3,025,025.34
2005	5,136,667.30	43.00	119,455.60	27.25	3,254,719.86
2006	4,515,265.96	43.00	105,004.62	27.96	2,935,500.13
2007	5,473,681.36	43.00	127,293.02	28.67	3,649,732.61
2008	5,285,964.47	43.00	122,927.58	29.39	3,613,418.44
2009	5,022,684.67	43.00	116,804.88	30.13	3,518,778.81
2010	5,530,917.51	43.00	128,624.07	30.86	3,969,527.29
2011	5,326,719.80	43.00	123,875.36	31.60	3,914,915.95

FE 2025 Study - Pennsylvania Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *43* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	3,470,919.03	43.00	80,717.85	32.35	2,611,444.12
2013	3,143,547.48	43.00	73,104.67	33.11	2,420,268.00
2014	4,158,260.75	43.00	96,702.30	33.87	3,274,967.62
2015	4,072,639.31	43.00	94,711.13	34.63	3,280,081.87
2016	3,830,082.68	43.00	89,070.36	35.40	3,153,394.51
2017	3,667,644.52	43.00	85,292.79	36.18	3,085,866.99
2018	4,273,240.21	43.00	99,376.20	36.96	3,673,164.83
2019	4,801,983.43	43.00	111,672.37	37.75	4,215,594.57
2020	5,327,096.37	43.00	123,884.12	38.54	4,774,791.16
2021	4,717,544.56	43.00	109,708.70	39.34	4,316,077.57
2022	5,428,921.56	43.00	126,252.11	40.15	5,068,391.64
2023	5,318,642.44	43.00	123,687.52	40.95	5,065,496.51
2024	6,893,483.01	43.00	160,311.17	41.77	6,696,027.43
2025	8,607,983.68	43.00	200,182.69	42.59	8,525,537.39
Total	143,404,699.69	38.02	3,334,658.82	30.68	102,302,347.33

Composite Average Remaining Life ... 30.68 Years

FE 2025 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1942	95.64	60.00	1.59	1.70	2.71
1943	51.59	60.00	0.86	1.93	1.66
1944	116.34	60.00	1.94	2.18	4.22
1945	155.32	60.00	2.59	2.40	6.23
1946	4,256.55	60.00	70.94	2.67	189.29
1947	10,796.88	60.00	179.95	2.90	521.85
1948	13,467.90	60.00	224.46	3.15	706.41
1949	15,911.50	60.00	265.19	3.40	902.75
1950	21,332.03	60.00	355.53	3.67	1,305.84
1951	23,045.45	60.00	384.09	3.93	1,510.08
1952	31,066.77	60.00	517.78	4.21	2,180.13
1953	34,476.56	60.00	574.61	4.47	2,570.27
1954	34,561.65	60.00	576.03	4.75	2,733.66
1955	41,032.63	60.00	683.88	5.03	3,438.34
1956	54,381.11	60.00	906.35	5.32	4,823.13
1957	56,996.50	60.00	949.94	5.62	5,336.06
1958	50,045.01	60.00	834.08	5.93	4,947.25
1959	53,215.93	60.00	886.93	6.25	5,542.43
1960	47,321.09	60.00	788.68	6.58	5,192.60
1961	48,098.16	60.00	801.63	6.94	5,560.75
1962	97,900.90	60.00	1,631.68	7.31	11,925.21
1963	55,246.94	60.00	920.78	7.70	7,090.77
1964	56,771.51	60.00	946.19	8.12	7,679.33
1965	62,250.54	60.00	1,037.51	8.55	8,874.83
1966	74,978.43	60.00	1,249.64	9.02	11,272.07
1967	80,379.23	60.00	1,339.65	9.51	12,743.78
1968	99,086.54	60.00	1,651.44	10.03	16,563.56

FE 2025 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	94,592.83	60.00	1,576.54	10.58	16,677.15
1970	112,276.60	60.00	1,871.27	11.15	20,858.24
1971	148,488.19	60.00	2,474.80	11.75	29,074.18
1972	229,875.29	60.00	3,831.24	12.37	47,394.90
1973	297,034.85	60.00	4,950.57	13.01	64,414.28
1974	310,191.98	60.00	5,169.85	13.67	70,655.51
1975	253,404.23	60.00	4,223.39	14.34	60,560.62
1976	202,382.02	60.00	3,373.02	15.02	50,660.81
1977	214,624.66	60.00	3,577.07	15.72	56,216.14
1978	290,786.86	60.00	4,846.43	16.42	79,590.65
1979	296,774.28	60.00	4,946.22	17.14	84,780.00
1980	315,166.25	60.00	5,252.76	17.87	93,858.51
1981	351,369.20	60.00	5,856.14	18.61	108,992.42
1982	354,879.78	60.00	5,914.65	19.36	114,526.62
1983	411,811.47	60.00	6,863.51	20.13	138,179.56
1984	452,967.17	60.00	7,549.43	20.91	157,885.20
1985	476,308.28	60.00	7,938.45	21.71	172,314.21
1986	663,254.57	60.00	11,054.21	22.51	248,827.27
1987	734,201.61	60.00	12,236.66	23.33	285,455.42
1988	1,097,224.07	60.00	18,287.02	24.15	441,711.10
1989	1,041,533.33	60.00	17,358.84	25.00	433,917.40
1990	1,470,579.85	60.00	24,509.60	25.85	633,573.52
1991	925,847.91	60.00	15,430.76	26.71	412,208.14
1992	887,030.43	60.00	14,783.80	27.59	407,826.08
1993	1,048,841.34	60.00	17,480.64	28.47	497,685.77
1994	1,824,472.05	60.00	30,407.78	29.36	892,840.85
1995	2,098,698.57	60.00	34,978.21	30.27	1,058,660.79

FE 2025 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	2,170,445.27	60.00	36,173.99	31.18	1,127,847.07
1997	826,321.70	60.00	13,771.99	32.10	442,056.24
1998	238,851.00	60.00	3,980.84	33.02	131,466.41
1999	3,177,423.30	60.00	52,956.91	33.96	1,798,410.33
2000	133,898.54	60.00	2,231.64	34.90	77,883.79
2001	216,015.09	60.00	3,600.24	35.85	129,062.02
2002	223,563.74	60.00	3,726.05	36.80	137,125.26
2003	477,783.71	60.00	7,963.04	37.76	300,686.73
2004	820,623.28	60.00	13,677.02	38.72	529,616.58
2005	933,758.60	60.00	15,562.60	39.69	617,696.20
2006	1,596,388.06	60.00	26,606.39	40.66	1,081,868.31
2007	964,607.08	60.00	16,076.74	41.64	669,397.80
2008	808,966.90	60.00	13,482.74	42.62	574,584.84
2009	1,019,685.64	60.00	16,994.71	43.60	740,920.65
2010	887,712.97	60.00	14,795.18	44.58	659,588.84
2011	1,239,956.65	60.00	20,665.89	45.57	941,696.18
2012	1,101,222.10	60.00	18,353.65	46.56	854,463.08
2013	747,617.98	60.00	12,460.27	47.55	592,431.39
2014	1,184,935.86	60.00	19,748.88	48.54	958,555.65
2015	1,046,907.46	60.00	17,448.41	49.53	864,220.77
2016	997,440.78	60.00	16,623.97	50.52	839,908.25
2017	905,890.88	60.00	15,098.14	51.52	777,840.52
2018	1,064,856.78	60.00	17,747.56	52.51	932,007.11
2019	1,209,699.26	60.00	20,161.60	53.51	1,078,873.11
2020	1,325,124.63	60.00	22,085.35	54.51	1,203,839.13
2021	1,159,629.99	60.00	19,327.11	55.51	1,072,774.36
2022	1,197,266.20	60.00	19,954.38	56.50	1,127,507.78

FE 2025 Study - Pennsylvania Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	1,400,009.27	60.00	23,333.42	57.50	1,341,736.66
2024	1,073,440.91	60.00	17,890.63	58.50	1,046,628.90
2025	1,102,122.40	60.00	18,368.66	59.50	1,092,945.39
Total	48,923,822.40	60.00	815,394.78	37.46	30,546,609.85

Composite Average Remaining Life ... *37.46 Years*

FE 2025 Study - Pennsylvania Power
Electric Division
370.10 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	4,625.49	15.00	308.37	2.92	901.30
2010	1,298.82	15.00	86.59	3.62	313.57
2013	112,181.65	15.00	7,478.78	4.92	36,758.86
2014	4,803,372.01	15.00	320,224.81	5.43	1,738,451.30
2015	23,496,409.85	15.00	1,566,427.38	5.99	9,387,205.79
2016	7,505,420.67	15.00	500,361.40	6.61	3,307,704.24
2017	1,328,739.57	15.00	88,582.64	7.29	645,394.71
2018	3,351,715.35	15.00	223,447.70	8.02	1,792,594.56
2019	2,039,590.67	15.00	135,972.72	8.82	1,199,229.90
2020	1,562,065.77	15.00	104,137.72	9.67	1,007,454.57
2021	1,700,591.84	15.00	113,372.79	10.58	1,199,639.67
2022	1,397,100.57	15.00	93,140.04	11.53	1,073,896.07
2023	1,500,337.73	15.00	100,022.52	12.51	1,251,003.26
2024	2,223,643.07	15.00	148,242.88	13.50	2,001,395.70
2025	2,471,113.82	15.00	164,740.93	14.50	2,388,744.27
Total	53,498,206.88	15.00	3,566,547.26	7.58	27,030,687.79

Composite Average Remaining Life ... 7.58 Years

FE 2025 Study - Pennsylvania Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 33 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1985	46,710.65	33.00	1,415.46	6.06	8,571.04
1986	137,608.86	33.00	4,169.94	6.41	26,743.05
1987	334,076.14	33.00	10,123.45	6.79	68,697.86
1988	184,422.49	33.00	5,588.52	7.17	40,094.13
1989	247,965.55	33.00	7,514.05	7.58	56,950.18
1990	362,486.95	33.00	10,984.37	8.00	87,885.68
1991	419,238.49	33.00	12,704.11	8.44	107,226.38
1992	318,064.59	33.00	9,638.25	8.90	85,755.78
1993	313,659.03	33.00	9,504.75	9.37	89,092.55
1994	55,391.25	33.00	1,678.51	9.87	16,561.62
1995	32,730.45	33.00	991.82	10.38	10,293.48
1996	72,142.69	33.00	2,186.13	10.91	23,845.80
1997	49,661.04	33.00	1,504.87	11.46	17,238.38
1998	50,327.87	33.00	1,525.08	12.02	18,331.31
1999	29,562.60	33.00	895.83	12.60	11,289.33
2000	38,279.49	33.00	1,159.98	13.20	15,313.06
2001	17,593.88	33.00	533.14	13.82	7,366.38
2002	22,648.18	33.00	686.30	14.45	9,916.22
2003	45,148.08	33.00	1,368.11	15.10	20,653.56
2004	72,212.72	33.00	2,188.25	15.76	34,485.42
2005	82,525.68	33.00	2,500.76	16.44	41,105.74
2006	120,445.73	33.00	3,649.84	17.13	62,520.85
2007	48,817.26	33.00	1,479.30	17.84	26,385.18
2008	51,803.85	33.00	1,569.80	18.56	29,130.00
2009	35,007.31	33.00	1,060.82	19.29	20,463.20
2010	82,292.82	33.00	2,493.70	20.04	49,964.85
2011	103,461.02	33.00	3,135.16	20.80	65,196.78

FE 2025 Study - Pennsylvania Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *33* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2012	69,333.80	33.00	2,101.01	21.57	45,311.40
2013	83,293.12	33.00	2,524.02	22.35	56,410.39
2014	43,479.38	33.00	1,317.55	23.14	30,493.21
2015	62,242.06	33.00	1,886.11	23.95	45,171.41
2016	32,703.16	33.00	991.00	24.77	24,543.00
2017	42,910.36	33.00	1,300.30	25.59	33,278.53
2018	55,902.08	33.00	1,693.99	26.43	44,772.14
2019	39,854.19	33.00	1,207.69	27.28	32,942.21
2020	61,312.15	33.00	1,857.93	28.13	52,269.99
2021	61,247.66	33.00	1,855.98	29.00	53,821.73
2022	79,689.83	33.00	2,414.83	29.87	72,139.85
2023	85,940.05	33.00	2,604.23	30.76	80,097.74
Total	4,092,192.51	33.00	124,004.94	13.08	1,622,329.41

Composite Average Remaining Life ... 13.08 Years

FE 2025 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 20 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1927	1,873.09	0.00	0.00	0.00	0.00
1928	3,109.96	0.00	0.00	0.00	0.00
1929	568.80	0.00	0.00	0.00	0.00
1930	1,869.26	0.00	0.00	0.00	0.00
1931	1,001.61	0.00	0.00	0.00	0.00
1935	121.93	0.00	0.00	0.00	0.00
1937	1,663.66	0.00	0.00	0.00	0.00
1939	337.58	0.00	0.00	0.00	0.00
1940	800.61	0.00	0.00	0.00	0.00
1948	3,196.95	0.00	0.00	0.00	0.00
1953	768.08	0.00	0.00	0.00	0.00
1954	4,231.79	0.00	0.00	0.00	0.00
1955	1,101.93	0.00	0.00	0.00	0.00
1958	940.58	0.00	0.00	0.00	0.00
1959	23.71	0.00	0.00	0.00	0.00
1960	357.47	0.00	0.00	0.00	0.00
1961	2,078.26	0.00	0.00	0.00	0.00
1962	4,467.42	0.00	0.00	0.00	0.00
1963	5,414.41	0.00	0.00	0.00	0.00
1964	7,569.19	0.00	0.00	0.00	0.00
1965	20,010.43	0.00	0.00	0.00	0.00
1966	20,189.43	0.00	0.00	0.00	0.00
1967	40,513.26	0.00	0.00	0.00	0.00
1968	2,861.61	0.00	0.00	0.00	0.00
1969	4,167.13	0.00	0.00	0.00	0.00
1970	60,069.77	0.00	0.00	0.00	0.00
1971	18,438.49	0.00	0.00	0.00	0.00

FE 2025 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1972	2,624.48	0.00	0.00	0.00	0.00
1973	170.57	0.00	0.00	0.00	0.00
1974	26,023.22	0.00	0.00	0.00	0.00
1975	47,391.89	0.00	0.00	0.00	0.00
1976	5,971.31	0.00	0.00	0.00	0.00
1977	2,903.80	0.00	0.00	0.00	0.00
1978	3,707.16	0.00	0.00	0.00	0.00
1979	62,100.64	0.00	0.00	0.00	0.00
1980	39,909.71	0.00	0.00	0.00	0.00
1981	4,846.78	0.00	0.00	0.00	0.00
1982	43,425.76	0.00	0.00	0.00	0.00
1983	12,342.36	0.00	0.00	0.00	0.00
1984	5,622.48	0.00	0.00	0.00	0.00
1985	47,183.54	0.00	0.00	0.00	0.00
1986	5,918.39	0.00	0.00	0.00	0.00
1987	4,391.15	0.00	0.00	0.00	0.00
1988	405.90	0.00	0.00	0.00	0.00
1990	6,419.27	20.00	320.96	0.55	177.89
1991	14,928.63	20.00	746.42	0.78	580.77
1992	9,323.48	20.00	466.16	1.02	475.30
1993	5,289.36	20.00	264.46	1.29	342.12
1994	32,825.97	20.00	1,641.27	1.57	2,573.05
1995	18,009.07	20.00	900.44	1.86	1,670.32
1996	51,670.30	20.00	2,583.46	2.14	5,525.23
1997	32,751.39	20.00	1,637.54	2.43	3,981.38
1998	14,050.49	20.00	702.51	2.73	1,914.66
1999	24,816.67	20.00	1,240.81	3.03	3,764.07

FE 2025 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2000	9,272.31	20.00	463.61	3.35	1,554.72
2001	22,282.94	20.00	1,114.12	3.69	4,116.21
2002	36,602.10	20.00	1,830.07	4.06	7,424.48
2003	71,006.59	20.00	3,550.26	4.45	15,782.45
2004	111,806.23	20.00	5,590.20	4.86	27,176.49
2005	122,116.96	20.00	6,105.73	5.31	32,399.31
2006	121,000.74	20.00	6,049.92	5.78	34,974.58
2007	87,050.32	20.00	4,352.43	6.28	27,354.87
2008	78,351.21	20.00	3,917.48	6.82	26,717.11
2009	89,607.73	20.00	4,480.30	7.38	33,077.15
2010	218,523.37	20.00	10,925.95	7.98	87,140.50
2011	197,406.16	20.00	9,870.11	8.59	84,826.20
2012	142,118.59	20.00	7,105.79	9.24	65,663.28
2013	219,477.09	20.00	10,973.64	9.91	108,760.97
2014	259,377.34	20.00	12,968.61	10.61	137,556.93
2015	209,275.75	20.00	10,463.58	11.32	118,492.28
2016	157,397.00	20.00	7,869.69	12.06	94,946.09
2017	225,664.48	20.00	11,283.00	12.82	144,702.73
2018	77,476.00	20.00	3,873.72	13.61	52,705.66
2019	102,998.62	20.00	5,149.83	14.40	74,182.33
2020	63,867.55	20.00	3,193.31	15.22	48,609.45
2021	62,733.63	20.00	3,136.62	16.06	50,364.09
2022	195,518.33	20.00	9,775.72	16.91	165,287.93
2023	94,976.87	20.00	4,748.75	17.77	84,402.70
2024	97,319.52	20.00	4,865.88	18.65	90,770.96
2025	82,156.27	20.00	4,107.73	19.55	80,299.18

FE 2025 Study - Pennsylvania Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	3,888,153.88	9.00	168,270.08	10.22	1,720,293.42

Composite Average Remaining Life ... *10.22 Years*

FE 2025 Study - Pennsylvania Power
Electric Division
373.20 Street Lighting and Signal Systems - ESIP
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2007	2,923.22	20.00	146.16	6.28	918.60
2009	3,092.00	20.00	154.60	7.38	1,141.36
2011	582.10	20.00	29.10	8.59	250.13
2012	1,646.55	20.00	82.33	9.24	760.76
2013	6,101.49	20.00	305.07	9.91	3,023.57
2014	4,093.59	20.00	204.68	10.61	2,170.97
2015	5,287.97	20.00	264.39	11.32	2,994.06
2016	641.39	20.00	32.07	12.06	386.90
2017	609.98	20.00	30.50	12.82	391.14
Total	24,978.29	20.00	1,248.89	9.64	12,037.49

Composite Average Remaining Life ... 9.64 Years

FE 2025 Study - Pennsylvania Power
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2016	1,694,400.48	20.00	84,718.34	12.06	1,022,107.76
2017	606,159.57	20.00	30,307.38	12.82	388,687.41
2018	291,859.92	20.00	14,592.71	13.61	198,547.54
2019	254,541.86	20.00	12,726.84	14.40	183,327.78
2020	291,410.41	20.00	14,570.23	15.22	221,791.81
2021	340,717.86	20.00	17,035.56	16.06	273,536.62
2022	448,132.31	20.00	22,406.17	16.91	378,843.56
2023	507,541.38	20.00	25,376.57	17.77	451,034.70
2024	448,121.69	20.00	22,405.64	18.65	417,967.92
2025	379,547.26	20.00	18,976.99	19.55	370,967.81
Total	5,262,432.74	20.00	263,116.42	14.85	3,906,812.92

Composite Average Remaining Life ... 14.85 Years

FE 2025 Study - West Penn Power
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1903	1,346.13	0.00	0.00	0.00	0.00
1905	531.48	0.00	0.00	0.00	0.00
1906	5,832.20	0.00	0.00	0.00	0.00
1907	2,066.98	0.00	0.00	0.00	0.00
1908	689.19	0.00	0.00	0.00	0.00
1909	106.95	0.00	0.00	0.00	0.00
1910	1,707.94	0.00	0.00	0.00	0.00
1911	521.99	0.00	0.00	0.00	0.00
1912	30,138.83	75.00	401.85	0.50	200.92
1913	8,547.09	75.00	113.96	0.62	70.57
1914	8,099.79	75.00	108.00	0.77	82.63
1915	7,919.63	75.00	105.59	0.84	88.93
1916	5,844.20	75.00	77.92	1.08	84.12
1917	4,783.88	75.00	63.78	1.30	82.76
1918	4,029.44	75.00	53.73	1.44	77.21
1919	1,749.99	75.00	23.33	1.67	39.00
1921	12,313.14	75.00	164.17	2.08	342.17
1922	6,268.83	75.00	83.58	2.32	194.33
1923	27,574.85	75.00	367.66	2.57	945.11
1924	29,796.03	75.00	397.28	2.78	1,103.63
1925	26,376.16	75.00	351.68	3.03	1,065.16
1926	33,323.32	75.00	444.31	3.29	1,459.70
1927	44,437.95	75.00	592.50	3.51	2,081.72
1928	17,664.58	75.00	235.53	3.77	888.70
1929	20,292.42	75.00	270.56	4.04	1,092.59
1930	19,568.32	75.00	260.91	4.28	1,116.84
1931	15,318.04	75.00	204.24	4.55	928.75

FE 2025 Study - West Penn Power
Electric Division
360.20 Land Rights
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1932	37,636.02	75.00	501.81	4.82	2,418.15
1933	11,954.78	75.00	159.40	5.07	808.53
1934	5,486.49	75.00	73.15	5.35	391.10
1935	6,429.77	75.00	85.73	5.63	482.26
1936	67,051.10	75.00	894.01	5.89	5,267.38
1937	17,372.38	75.00	231.63	6.18	1,430.67
1938	39,462.14	75.00	526.16	6.47	3,403.18
1939	63,470.20	75.00	846.27	6.75	5,715.37
1940	40,888.60	75.00	545.18	7.06	3,847.11
1941	60,811.18	75.00	810.81	7.37	5,974.79
1942	24,413.12	75.00	325.51	7.68	2,500.97
1943	66,033.10	75.00	880.44	8.01	7,056.59
1944	11,848.74	75.00	157.98	8.36	1,320.56
1945	38,002.57	75.00	506.70	8.71	4,415.13
1946	42,699.59	75.00	569.33	9.09	5,172.57
1947	76,458.80	75.00	1,019.45	9.47	9,657.34
1948	102,701.95	75.00	1,369.35	9.88	13,528.75
1949	113,555.41	75.00	1,514.06	10.30	15,600.38
1950	177,733.18	75.00	2,369.76	10.75	25,466.20
1951	132,312.91	75.00	1,764.16	11.21	19,784.29
1952	110,350.98	75.00	1,471.34	11.70	17,214.56
1953	80,016.27	75.00	1,066.88	12.21	13,021.98
1954	85,927.38	75.00	1,145.69	12.74	14,596.80
1955	66,923.91	75.00	892.31	13.29	11,859.92
1956	61,553.31	75.00	820.71	13.86	11,376.18
1957	69,444.12	75.00	925.92	14.46	13,388.41
1958	68,534.84	75.00	913.79	15.07	13,771.02

FE 2025 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1959	63,047.68	75.00	840.63	15.70	13,195.07
1960	135,140.89	75.00	1,801.87	16.34	29,451.42
1961	114,218.59	75.00	1,522.91	17.00	25,890.98
1962	110,911.42	75.00	1,478.81	17.67	26,127.12
1963	77,556.12	75.00	1,034.08	18.35	18,974.62
1964	78,839.01	75.00	1,051.18	19.04	20,010.28
1965	143,220.80	75.00	1,909.60	19.73	37,677.69
1966	74,025.53	75.00	987.00	20.44	20,173.58
1967	57,221.59	75.00	762.95	21.15	16,138.99
1968	110,813.46	75.00	1,477.51	21.88	32,322.29
1969	51,834.74	75.00	691.13	22.61	15,629.01
1970	133,210.30	75.00	1,776.13	23.36	41,485.77
1971	43,471.66	75.00	579.62	24.11	13,974.71
1972	81,637.19	75.00	1,088.49	24.88	27,079.26
1973	46,647.51	75.00	621.96	25.65	15,954.43
1974	26,882.24	75.00	358.43	26.43	9,474.99
1975	42,949.39	75.00	572.66	27.23	15,594.89
1976	17,083.94	75.00	227.78	28.04	6,386.30
1977	33,895.94	75.00	451.94	28.85	13,038.38
1978	60,649.68	75.00	808.66	29.68	23,998.17
1979	158,576.12	75.00	2,114.34	30.51	64,507.46
1980	106,745.30	75.00	1,423.26	31.35	44,620.87
1981	108,441.19	75.00	1,445.88	32.21	46,565.35
1982	106,373.60	75.00	1,418.31	33.07	46,897.61
1983	50,068.65	75.00	667.58	33.93	22,653.65
1984	186,242.84	75.00	2,483.23	34.81	86,451.03
1985	148,908.94	75.00	1,985.44	35.70	70,878.70

FE 2025 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1986	361,961.06	75.00	4,826.12	36.59	176,595.22
1987	94,952.99	75.00	1,266.03	37.49	47,469.05
1988	133,950.93	75.00	1,786.00	38.40	68,585.68
1989	130,280.43	75.00	1,737.06	39.32	68,293.56
1990	221,120.40	75.00	2,948.26	40.24	118,632.90
1991	232,572.85	75.00	3,100.96	41.17	127,651.44
1992	189,342.35	75.00	2,524.55	42.10	106,277.30
1993	84,087.10	75.00	1,121.16	43.04	48,251.64
1994	71,384.64	75.00	951.79	43.98	41,860.52
1995	502,549.76	75.00	6,700.63	44.93	301,050.96
1996	515,551.06	75.00	6,873.98	45.88	315,398.81
1997	622,579.46	75.00	8,301.02	46.84	388,820.63
1998	419,896.16	75.00	5,598.59	47.80	267,617.80
1999	121,829.14	75.00	1,624.38	48.77	79,215.92
2000	154,395.76	75.00	2,058.60	49.74	102,384.64
2001	56,673.04	75.00	755.64	50.71	38,315.52
2002	173,984.52	75.00	2,319.78	51.68	119,889.69
2003	85,817.01	75.00	1,144.22	52.66	60,252.90
2004	10,965.79	75.00	146.21	53.64	7,842.36
2005	326,906.37	75.00	4,358.73	54.62	238,074.22
2006	14,195.39	75.00	189.27	55.60	10,524.19
2007	252,085.02	75.00	3,361.12	56.59	190,203.35
2008	559,069.56	75.00	7,454.22	57.58	429,192.46
2009	7,234.71	75.00	96.46	58.57	5,649.40
2010	339,611.40	75.00	4,528.13	59.56	269,677.13
2011	549,038.03	75.00	7,320.47	60.55	443,237.70
2012	117,948.80	75.00	1,572.64	61.54	96,780.75

FE 2025 Study - West Penn Power
Electric Division
360.20 Land Rights

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	139,170.36	75.00	1,855.60	62.53	116,037.08
2014	3,190.18	75.00	42.54	63.53	2,702.20
2023	172.69	75.00	2.30	72.50	166.94
Total	10,877,053.47	69.59	144,855.97	36.82	5,333,219.66

Composite Average Remaining Life ... 36.82 Years

FE 2025 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1903	3,430.33	0.00	0.00	0.00	0.00
1906	1,733.22	0.00	0.00	0.00	0.00
1912	7,453.06	70.00	106.47	1.16	123.86
1913	7,831.03	70.00	111.87	1.43	159.49
1915	25.87	70.00	0.37	1.88	0.69
1921	9,597.00	70.00	137.10	3.34	457.86
1922	1,543.59	70.00	22.05	3.60	79.47
1924	3,100.20	70.00	44.29	4.11	182.15
1925	2,154.91	70.00	30.78	4.38	134.85
1926	8,621.79	70.00	123.17	4.62	569.34
1927	1,726.86	70.00	24.67	4.89	120.59
1928	18,215.17	70.00	260.22	5.14	1,336.34
1929	17,054.22	70.00	243.63	5.40	1,315.40
1930	4,433.65	70.00	63.34	5.65	357.88
1931	73,896.27	70.00	1,055.66	5.91	6,241.32
1932	83,553.88	70.00	1,193.63	6.18	7,374.95
1933	16,261.22	70.00	232.30	6.43	1,493.27
1934	2,206.54	70.00	31.52	6.70	211.07
1935	17.45	70.00	0.25	6.95	1.73
1936	4,950.43	70.00	70.72	7.23	510.99
1937	33.85	70.00	0.48	7.49	3.62
1938	762.86	70.00	10.90	7.77	84.71
1939	7,237.46	70.00	103.39	8.06	833.32
1940	1,018.36	70.00	14.55	8.34	121.37
1941	10,665.32	70.00	152.36	8.64	1,316.75
1942	1,130.12	70.00	16.14	8.94	144.38
1943	585.21	70.00	8.36	9.26	77.40

FE 2025 Study - West Penn Power
Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1944	624.48	70.00	8.92	9.58	85.46
1945	1,072.31	70.00	15.32	9.91	151.84
1946	771.04	70.00	11.01	10.26	112.98
1947	649.77	70.00	9.28	10.61	98.48
1948	242.40	70.00	3.46	10.98	38.01
1949	3,937.15	70.00	56.24	11.35	638.55
1950	41,187.58	70.00	588.39	11.74	6,909.67
1951	22,460.84	70.00	320.87	12.15	3,897.44
1952	17,039.01	70.00	243.41	12.56	3,057.82
1953	35,398.61	70.00	505.69	12.99	6,569.13
1954	57,275.77	70.00	818.23	13.43	10,992.23
1955	41,888.56	70.00	598.41	13.89	8,311.37
1956	23,006.17	70.00	328.66	14.36	4,719.66
1957	8,201.15	70.00	117.16	14.84	1,738.94
1958	118,833.98	70.00	1,697.63	15.34	26,043.03
1959	126,631.50	70.00	1,809.02	15.85	28,673.94
1960	26,358.41	70.00	376.55	16.37	6,165.01
1961	111,376.81	70.00	1,591.10	16.91	26,909.60
1962	67,384.84	70.00	962.64	17.46	16,809.05
1963	137,220.00	70.00	1,960.29	18.03	35,338.77
1964	111,180.35	70.00	1,588.29	18.60	29,546.06
1965	117,297.07	70.00	1,675.67	19.19	32,161.48
1966	114,741.44	70.00	1,639.16	19.79	32,445.00
1967	95,215.84	70.00	1,360.23	20.40	27,755.11
1968	175,911.13	70.00	2,513.02	21.03	52,856.46
1969	139,598.19	70.00	1,994.26	21.67	43,211.58
1970	203,137.04	70.00	2,901.96	22.32	64,766.58

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Electric Division
361.00 Structures and Improvements
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1971	159,840.31	70.00	2,283.43	22.98	52,463.57
1972	129,291.14	70.00	1,847.02	23.65	43,676.02
1973	79,209.37	70.00	1,131.56	24.33	27,526.08
1974	471,593.86	70.00	6,737.05	25.01	168,517.10
1975	289,025.80	70.00	4,128.94	25.72	106,179.11
1976	91,579.90	70.00	1,308.28	26.42	34,569.25
1977	236,245.15	70.00	3,374.93	27.14	91,608.40
1978	216,627.56	70.00	3,094.68	27.87	86,248.98
1979	338,386.84	70.00	4,834.10	28.61	138,292.66
1980	185,107.74	70.00	2,644.40	29.35	77,618.14
1981	380,586.16	70.00	5,436.94	30.10	163,670.98
1982	540,937.66	70.00	7,727.68	30.87	238,533.77
1983	402,375.66	70.00	5,748.22	31.64	181,849.55
1984	321,655.95	70.00	4,595.08	32.42	148,950.51
1985	831,497.93	70.00	11,878.54	33.20	394,363.61
1986	735,895.35	70.00	10,512.79	33.99	357,371.76
1987	780,857.69	70.00	11,155.11	34.79	388,131.75
1988	333,713.93	70.00	4,767.34	35.60	169,720.55
1989	960,847.26	70.00	13,726.39	36.42	499,889.21
1990	152,246.47	70.00	2,174.95	37.24	80,994.22
1991	652,942.80	70.00	9,327.75	38.07	355,115.11
1992	689,115.75	70.00	9,844.51	38.91	383,017.26
1993	998,247.95	70.00	14,260.68	39.75	566,880.47
1994	316,498.75	70.00	4,521.41	40.60	183,574.23
1995	481,610.78	70.00	6,880.15	41.46	285,228.99
1996	2,416,750.44	70.00	34,525.00	42.32	1,461,165.75
1997	31,006.63	70.00	442.95	43.19	19,131.47

FE 2025 Study - West Penn Power
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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1998	250,111.60	70.00	3,573.02	44.07	157,456.83
1999	734,026.35	70.00	10,486.09	44.95	471,347.86
2000	14,214.76	70.00	203.07	45.84	9,308.41
2001	36,776.69	70.00	525.38	46.73	24,552.42
2002	305,623.25	70.00	4,366.05	47.63	207,960.56
2003	1,510,282.51	70.00	21,575.46	48.54	1,047,230.18
2004	261,803.49	70.00	3,740.05	49.45	184,937.76
2005	927,118.55	70.00	13,244.55	50.36	667,059.62
2006	580,841.08	70.00	8,297.73	51.29	425,551.22
2007	34,505.07	70.00	492.93	52.21	25,736.71
2008	7,441.82	70.00	106.31	53.14	5,649.61
2010	64,156.38	70.00	916.52	55.02	50,423.81
2011	30,283.45	70.00	432.62	55.96	24,209.28
2012	6,131.56	70.00	87.59	56.91	4,984.77
2013	138,389.96	70.00	1,977.00	57.86	114,386.76
2014	975,143.00	70.00	13,930.61	58.81	819,317.41
2015	577,330.25	70.00	8,247.57	59.77	492,976.67
2016	444,323.93	70.00	6,347.48	60.73	385,504.42
2017	380,083.42	70.00	5,429.76	61.70	335,010.07
2018	478,173.38	70.00	6,831.05	62.67	428,075.03
2019	375,811.58	70.00	5,368.74	63.64	341,649.88
2020	247,981.35	70.00	3,542.59	64.61	228,885.42
2021	529,703.73	70.00	7,567.20	65.59	496,296.51
2022	10,730.47	70.00	153.29	66.56	10,203.56
2023	2,392.10	70.00	34.17	67.54	2,308.11

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361.00 Structures and Improvements
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And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	24,234,955.87	68.68	346,139.86	40.90	14,158,567.46

Composite Average Remaining Life ... 40.90 Years

FE 2025 Study - West Penn Power
Electric Division
362.10 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1901	2,104.89	0.00	0.00	0.00	0.00
1910	2,077.37	60.00	34.62	1.72	59.62
1911	776.29	60.00	12.94	2.04	26.34
1914	561.23	60.00	9.35	3.05	28.48
1917	785.11	60.00	13.09	3.94	51.58
1918	323.48	60.00	5.39	4.19	22.61
1919	5,922.87	60.00	98.71	4.43	437.74
1920	5,086.91	60.00	84.78	4.67	396.29
1921	66,935.47	60.00	1,115.58	4.89	5,460.30
1922	9,401.44	60.00	156.69	5.13	803.94
1923	6,082.12	60.00	101.37	5.35	541.87
1924	16,842.96	60.00	280.71	5.57	1,563.07
1925	15,602.16	60.00	260.03	5.80	1,507.78
1926	35,962.78	60.00	599.37	6.04	3,619.70
1927	23,943.60	60.00	399.06	6.28	2,504.56
1928	163,446.70	60.00	2,724.08	6.53	17,788.84
1929	25,425.00	60.00	423.75	6.78	2,871.05
1930	14,147.16	60.00	235.78	7.03	1,657.28
1931	72,268.08	60.00	1,204.45	7.29	8,779.76
1932	95,714.80	60.00	1,595.23	7.56	12,057.48
1933	23,790.80	60.00	396.51	7.83	3,103.08
1934	3,064.88	60.00	51.08	8.11	414.04
1935	10,501.38	60.00	175.02	8.38	1,466.56
1936	11,544.74	60.00	192.41	8.66	1,666.03
1937	30,659.20	60.00	510.98	8.94	4,569.85
1938	58,965.45	60.00	982.75	9.23	9,074.80
1939	51,150.52	60.00	852.50	9.52	8,119.47

FE 2025 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1940	9,317.80	60.00	155.29	9.82	1,525.58
1941	150,158.31	60.00	2,502.61	10.12	25,326.54
1942	64,691.49	60.00	1,078.18	10.42	11,236.37
1943	38,887.63	60.00	648.12	10.73	6,953.23
1944	50,676.51	60.00	844.60	11.04	9,325.36
1945	57,553.44	60.00	959.21	11.36	10,892.72
1946	173,004.72	60.00	2,883.38	11.68	33,675.11
1947	207,248.41	60.00	3,454.10	12.00	41,459.95
1948	266,396.19	60.00	4,439.89	12.33	54,759.69
1949	222,756.91	60.00	3,712.57	12.67	47,040.12
1950	229,447.24	60.00	3,824.08	13.01	49,768.15
1951	686,464.51	60.00	11,440.95	13.36	152,889.76
1952	636,508.84	60.00	10,608.36	13.72	145,553.21
1953	644,129.09	60.00	10,735.36	14.08	151,185.65
1954	637,964.22	60.00	10,632.62	14.45	153,673.00
1955	455,815.30	60.00	7,596.84	14.83	112,666.46
1956	656,105.17	60.00	10,934.96	15.22	166,388.97
1957	1,708,384.61	60.00	28,472.76	15.61	444,443.10
1958	1,263,422.49	60.00	21,056.81	16.01	337,131.71
1959	755,892.44	60.00	12,598.07	16.42	206,861.10
1960	1,411,388.05	60.00	23,522.87	16.84	396,077.58
1961	1,026,232.36	60.00	17,103.68	17.26	295,282.83
1962	1,285,669.36	60.00	21,427.58	17.70	379,240.36
1963	843,439.17	60.00	14,057.16	18.14	255,030.15
1964	1,069,534.96	60.00	17,825.38	18.59	331,454.93
1965	1,273,659.01	60.00	21,227.41	19.05	404,484.38
1966	1,692,948.37	60.00	28,215.49	19.52	550,900.37

FE 2025 Study - West Penn Power
Electric Division
362.10 Station Equipment
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	2,099,352.16	60.00	34,988.81	20.00	699,888.22
1968	3,211,551.10	60.00	53,525.25	20.49	1,096,711.70
1969	2,903,027.87	60.00	48,383.26	20.99	1,015,367.48
1970	1,883,255.30	60.00	31,387.24	21.49	674,482.00
1971	2,509,600.95	60.00	41,826.21	22.00	920,309.74
1972	1,729,705.02	60.00	28,828.09	22.53	649,370.01
1973	1,706,331.22	60.00	28,438.54	23.06	655,684.76
1974	2,737,820.02	60.00	45,629.82	23.59	1,076,605.22
1975	3,073,667.62	60.00	51,227.22	24.14	1,236,743.25
1976	2,052,261.05	60.00	34,203.97	24.70	844,714.13
1977	3,866,254.09	60.00	64,436.85	25.26	1,627,765.45
1978	4,506,608.83	60.00	75,109.31	25.83	1,940,385.72
1979	4,555,101.87	60.00	75,917.51	26.41	2,005,325.32
1980	2,575,647.67	60.00	42,926.98	27.00	1,159,105.54
1981	5,425,021.06	60.00	90,416.01	27.60	2,495,335.99
1982	7,274,737.98	60.00	121,244.28	28.20	3,419,133.46
1983	7,282,054.61	60.00	121,366.22	28.81	3,496,891.44
1984	4,168,983.34	60.00	69,482.28	29.43	2,045,007.83
1985	8,693,542.01	60.00	144,890.74	30.06	4,355,173.96
1986	7,795,922.46	60.00	129,930.59	30.69	3,987,668.08
1987	6,148,893.30	60.00	102,480.41	31.33	3,210,886.10
1988	5,213,500.01	60.00	86,890.69	31.98	2,778,534.33
1989	9,157,869.91	60.00	152,629.46	32.63	4,980,673.44
1990	5,240,191.64	60.00	87,335.55	33.29	2,907,726.47
1991	7,074,901.29	60.00	117,913.70	33.96	4,004,478.86
1992	7,116,155.64	60.00	118,601.27	34.63	4,107,620.22
1993	8,822,959.76	60.00	147,047.68	35.31	5,192,866.27

FE 2025 Study - West Penn Power
Electric Division
362.10 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	8,824,245.79	60.00	147,069.12	36.00	5,294,264.54
1995	6,420,753.00	60.00	107,011.35	36.69	3,926,365.05
1996	10,155,884.57	60.00	169,262.85	37.39	6,328,579.98
1997	4,235,819.18	60.00	70,596.20	38.09	2,689,166.61
1998	4,329,950.18	60.00	72,165.03	38.80	2,800,001.61
1999	4,154,439.44	60.00	69,239.88	39.51	2,735,958.83
2000	4,519,121.64	60.00	75,317.85	40.23	3,030,169.23
2001	3,333,500.29	60.00	55,557.72	40.96	2,275,444.15
2002	3,314,018.60	60.00	55,233.03	41.69	2,302,417.50
2003	3,713,214.61	60.00	61,886.22	42.42	2,625,150.55
2004	4,501,817.52	60.00	75,029.45	43.16	3,237,990.53
2005	7,291,673.54	60.00	121,526.53	43.90	5,334,891.91
2006	13,187,873.42	60.00	219,795.43	44.64	9,812,646.07
2007	6,544,057.66	60.00	109,066.41	45.40	4,951,174.58
2008	13,609,968.47	60.00	226,830.27	46.15	10,468,502.71
2009	8,349,476.03	60.00	139,156.38	46.91	6,527,703.07
2010	6,125,426.51	60.00	102,089.30	47.67	4,866,875.67
2011	6,484,127.68	60.00	108,067.58	48.44	5,234,797.69
2012	6,298,462.24	60.00	104,973.20	49.21	5,165,720.00
2013	7,970,204.88	60.00	132,835.26	49.99	6,639,824.63
2014	11,986,019.08	60.00	199,764.75	50.76	10,140,977.30
2015	4,435,234.14	60.00	73,919.74	51.55	3,810,374.95
2016	8,397,374.21	60.00	139,954.67	52.33	7,324,334.29
2017	7,223,635.40	60.00	120,392.58	53.12	6,395,804.76
2018	10,626,932.84	60.00	177,113.56	53.92	9,549,622.45
2019	19,590,896.84	60.00	326,511.29	54.72	17,865,745.67
2020	8,442,015.33	60.00	140,698.68	55.52	7,811,547.98

FE 2025 Study - West Penn Power
Electric Division
362.10 Station Equipment

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	12,381,716.46	60.00	206,359.63	56.33	11,623,397.28
2022	12,153,848.98	60.00	202,561.88	57.14	11,573,456.68
2023	12,398,085.60	60.00	206,632.45	57.95	11,974,262.72
2024	22,588,442.21	60.00	376,469.82	58.77	22,123,728.43
2025	4,372,961.06	60.00	72,881.87	59.59	4,342,908.59
Total	415,056,899.17	59.47	6,917,502.47	41.67	288,232,079.46

Composite Average Remaining Life ... 41.67 Years

FE 2025 Study - West Penn Power
Electric Division
362.15 Station Equipment - Subtrans

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	581,249.06	60.00	9,687.38	36.00	348,730.80
1995	91,040.41	60.00	1,517.32	36.69	55,672.27
1996	476,777.43	60.00	7,946.20	37.39	297,101.06
1997	3,302.66	60.00	55.04	38.09	2,096.74
1998	16,932,855.86	60.00	282,211.11	38.80	10,949,785.04
1999	5,771.17	60.00	96.19	39.51	3,800.68
2000	538,196.65	60.00	8,969.84	40.23	360,872.55
2001	4,333.99	60.00	72.23	40.96	2,958.38
2007	16,885.50	60.00	281.42	45.40	12,775.42
2013	51,334.66	60.00	855.57	49.99	42,765.92
2014	2,090.04	60.00	34.83	50.76	1,768.31
2015	0.86	60.00	0.01	51.55	0.74
2016	8,307.89	60.00	138.46	52.33	7,246.28
2017	425.11	60.00	7.09	53.12	376.39
2018	43,911.94	60.00	731.86	53.92	39,460.35
2019	188.51	60.00	3.14	54.72	171.91
2020	124,357.37	60.00	2,072.60	55.52	115,070.10
2021	363.28	60.00	6.05	56.33	341.03
2022	104.37	60.00	1.74	57.14	99.39
2023	15,559.07	60.00	259.31	57.95	15,027.19
Total	18,897,055.83	60.00	314,947.40	38.91	12,256,120.54

Composite Average Remaining Life ... 38.91 Years

FE 2025 Study - West Penn Power
Electric Division
362.40 Station Equipment - SCADA
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 35 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1931	121.03	0.00	0.00	0.00	0.00
1969	996.76	35.00	28.48	2.26	64.48
1972	1,452.75	35.00	41.51	2.94	122.01
1974	3,164.64	35.00	90.42	3.37	304.91
1975	2,131.44	35.00	60.90	3.59	218.87
1976	11,337.18	35.00	323.92	3.82	1,237.49
1977	12,902.83	35.00	368.65	4.06	1,495.27
1978	9,154.85	35.00	261.57	4.29	1,122.10
1979	1,613.17	35.00	46.09	4.53	208.83
1980	200.00	35.00	5.71	4.78	27.31
1981	200.00	35.00	5.71	5.04	28.79
1982	200.00	35.00	5.71	5.31	30.34
1983	9,501.56	35.00	271.47	5.59	1,518.67
1984	43,336.22	35.00	1,238.17	5.90	7,300.84
1985	24,442.88	35.00	698.37	6.21	4,340.18
1986	116,102.96	35.00	3,317.21	6.55	21,740.26
1987	80,564.37	35.00	2,301.83	6.91	15,917.07
1988	67,496.13	35.00	1,928.45	7.30	14,076.80
1989	124,314.43	35.00	3,551.83	7.71	27,378.62
1990	74,442.26	35.00	2,126.91	8.14	17,317.03
1991	100,676.66	35.00	2,876.46	8.60	24,735.70
1992	260,476.55	35.00	7,442.16	9.08	67,597.95
1993	499,026.15	35.00	14,257.84	9.59	136,754.55
1994	1,054,912.61	35.00	30,140.24	10.12	305,140.39
1995	199,784.16	35.00	5,708.10	10.68	60,961.26
1996	297,588.69	35.00	8,502.50	11.26	95,720.89
1997	1,064.14	35.00	30.40	11.86	360.52

FE 2025 Study - West Penn Power
Electric Division
362.40 Station Equipment - SCADA

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *35* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1999	16,618.73	35.00	474.82	13.12	6,227.98
2000	13,474.94	35.00	385.00	13.78	5,303.41
2002	397,801.90	35.00	11,365.73	15.14	172,128.46
2003	140,439.14	35.00	4,012.53	15.85	63,613.20
2004	453,549.74	35.00	12,958.51	16.58	214,828.31
2005	166,246.20	35.00	4,749.87	17.32	82,250.76
2006	225,999.95	35.00	6,457.12	18.07	116,683.71
2007	126,432.75	35.00	3,612.35	18.84	68,051.28
2008	191,326.89	35.00	5,466.46	19.62	107,250.97
2010	154,524.49	35.00	4,414.97	21.22	93,689.59
2014	819.98	35.00	23.43	24.57	575.51
2020	39.60	35.00	1.13	29.88	33.81
2021	11,334.00	35.00	323.83	30.80	9,973.94
2022	1,272.00	35.00	36.34	31.72	1,152.89
Total	4,897,084.73	34.15	139,912.71	12.49	1,747,484.94

Composite Average Remaining Life ... 12.49 Years

FE 2025 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1940	6,171.49	70.00	88.16	12.97	1,143.70
1941	13,415.74	70.00	191.65	13.33	2,554.91
1942	3,922.28	70.00	56.03	13.69	767.33
1943	13,878.28	70.00	198.26	14.07	2,788.79
1944	2,677.34	70.00	38.25	14.44	552.47
1945	7,432.65	70.00	106.18	14.83	1,574.73
1946	16,772.79	70.00	239.61	15.22	3,647.93
1947	39,707.73	70.00	567.25	15.63	8,863.66
1948	58,132.98	70.00	830.47	16.03	13,316.29
1949	118,109.14	70.00	1,687.27	16.45	27,759.11
1950	237,385.49	70.00	3,391.21	16.88	57,234.02
1951	200,648.96	70.00	2,866.41	17.31	49,620.53
1952	253,235.87	70.00	3,617.65	17.75	64,222.74
1953	411,536.25	70.00	5,879.08	18.20	107,011.22
1954	577,816.83	70.00	8,254.51	18.66	154,043.01
1955	482,852.27	70.00	6,897.87	19.13	131,942.59
1956	1,074,168.74	70.00	15,345.23	19.60	300,837.01
1957	246,817.11	70.00	3,525.95	20.09	70,829.39
1958	419,303.97	70.00	5,990.04	20.58	123,284.01
1959	473,532.23	70.00	6,764.73	21.08	142,615.14
1960	500,673.95	70.00	7,152.47	21.59	154,425.70
1961	389,536.66	70.00	5,564.80	22.11	123,039.89
1962	441,547.30	70.00	6,307.81	22.64	142,783.05
1963	510,807.06	70.00	7,297.23	23.17	169,094.37
1964	565,326.41	70.00	8,076.07	23.72	191,524.17
1965	649,576.06	70.00	9,279.64	24.27	225,197.02
1966	616,115.24	70.00	8,801.63	24.83	218,521.15

FE 2025 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1967	553,304.66	70.00	7,904.34	25.39	200,723.92
1968	740,604.35	70.00	10,580.04	25.97	274,791.01
1969	630,687.95	70.00	9,009.81	26.56	239,263.52
1970	779,564.35	70.00	11,136.61	27.15	302,359.01
1971	881,488.94	70.00	12,592.67	27.75	349,441.00
1972	899,813.65	70.00	12,854.45	28.36	364,539.44
1973	1,156,524.70	70.00	16,521.75	28.97	478,708.81
1974	1,035,588.99	70.00	14,794.10	29.60	437,855.97
1975	1,520,540.94	70.00	21,721.97	30.23	656,655.48
1976	1,491,465.59	70.00	21,306.61	30.87	657,683.91
1977	1,402,638.00	70.00	20,037.64	31.52	631,494.07
1978	2,085,140.72	70.00	29,787.66	32.17	958,209.64
1979	2,044,155.15	70.00	29,202.15	32.83	958,702.05
1980	3,148,958.43	70.00	44,985.02	33.50	1,506,867.93
1981	2,899,328.75	70.00	41,418.89	34.17	1,415,304.42
1982	2,723,367.75	70.00	38,905.17	34.85	1,356,010.05
1983	3,170,089.35	70.00	45,286.89	35.54	1,609,574.14
1984	3,519,427.58	70.00	50,277.43	36.24	1,821,982.22
1985	3,344,937.94	70.00	47,784.73	36.94	1,765,156.08
1986	3,361,553.68	70.00	48,022.09	37.65	1,808,002.44
1987	3,623,512.42	70.00	51,764.35	38.36	1,985,883.45
1988	3,859,540.42	70.00	55,136.17	39.08	2,154,942.53
1989	4,714,344.44	70.00	67,347.63	39.81	2,681,347.00
1990	6,159,812.47	70.00	87,997.13	40.55	3,567,969.75
1991	7,280,653.91	70.00	104,009.12	41.29	4,294,313.44
1992	7,606,420.62	70.00	108,662.92	42.03	4,567,451.57
1993	5,935,952.92	70.00	84,799.15	42.79	3,628,235.48

FE 2025 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1994	5,789,204.94	70.00	82,702.75	43.54	3,601,183.56
1995	10,926,268.52	70.00	156,089.22	44.31	6,915,722.43
1996	9,160,967.17	70.00	130,870.68	45.08	5,899,296.36
1997	15,056,111.87	70.00	215,086.85	45.85	9,862,044.57
1998	2,946,775.47	70.00	42,096.70	46.63	1,963,109.71
1999	14,160,258.87	70.00	202,288.98	47.42	9,592,302.76
2000	12,086,061.03	70.00	172,657.65	48.21	8,324,036.36
2001	4,869,817.83	70.00	69,568.68	49.01	3,409,401.24
2002	6,108,894.48	70.00	87,269.73	49.81	4,346,798.41
2003	4,935,426.22	70.00	70,505.94	50.62	3,568,839.48
2004	3,802,964.68	70.00	54,327.95	51.43	2,794,043.46
2005	5,692,254.31	70.00	81,317.74	52.25	4,248,673.79
2006	4,387,271.46	70.00	62,675.17	53.07	3,326,152.62
2007	6,718,071.88	70.00	95,972.25	53.90	5,172,697.19
2008	19,101,096.28	70.00	272,872.22	54.73	14,934,213.62
2009	1,761,083.62	70.00	25,158.28	55.57	1,397,938.30
2010	11,124,750.53	70.00	158,924.67	56.41	8,964,726.15
2011	18,084,433.29	70.00	258,348.49	57.25	14,791,540.40
2012	7,739,777.79	70.00	110,568.02	58.11	6,424,662.48
2013	6,286,971.42	70.00	89,813.69	58.96	5,295,483.48
2014	8,656,330.58	70.00	123,661.60	59.82	7,397,573.31
2015	6,871,587.83	70.00	98,165.33	60.68	5,957,144.26
2016	8,500,596.01	70.00	121,436.83	61.55	7,474,711.11
2017	12,051,643.71	70.00	172,165.97	62.43	10,747,599.61
2018	14,387,552.56	70.00	205,536.03	63.30	13,010,789.82
2019	19,415,293.72	70.00	277,360.75	64.18	17,801,886.51
2020	17,375,954.12	70.00	248,227.39	65.07	16,151,474.38

FE 2025 Study - West Penn Power
Electric Division
364.00 Poles, Towers, and Fixtures

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2021	15,948,456.29	70.00	227,834.60	65.96	15,027,116.99
2022	20,655,728.73	70.00	295,081.21	66.85	19,725,657.40
2023	28,557,548.26	70.00	407,964.10	67.74	27,636,924.94
2024	41,525,240.59	70.00	593,216.45	68.64	40,720,802.26
2025	49,519,530.14	70.00	707,420.35	69.55	49,198,808.69
Total	499,104,443.69	70.00	7,130,048.24	55.94	398,846,017.93

Composite Average Remaining Life ... 55.94 Years

FE 2025 Study - West Penn Power
Electric Division
364.55 Poles and Fixtures - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1912	377.17	70.00	5.39	4.44	23.91
1915	20,950.84	70.00	299.30	5.30	1,586.75
1920	306.04	70.00	4.37	6.75	29.51
1923	11,943.60	70.00	170.62	7.62	1,299.93
1924	17,578.98	70.00	251.13	7.91	1,987.41
1925	13,401.07	70.00	191.44	8.21	1,572.24
1926	5,899.65	70.00	84.28	8.50	716.50
1927	43,838.87	70.00	626.27	8.80	5,512.31
1928	22,021.61	70.00	314.59	9.10	2,861.68
1929	23,222.12	70.00	331.74	9.40	3,118.42
1930	40,755.57	70.00	582.22	9.70	5,648.37
1931	31,581.86	70.00	451.17	10.01	4,516.17
1932	24,130.84	70.00	344.73	10.32	3,558.76
1933	12,836.81	70.00	183.38	10.63	1,950.06
1934	12,067.46	70.00	172.39	10.95	1,888.47
1935	9,492.54	70.00	135.61	11.28	1,529.00
1936	20,854.40	70.00	297.92	11.60	3,457.27
1937	28,344.24	70.00	404.92	11.94	4,833.41
1938	578.59	70.00	8.27	12.28	101.47
1939	8,180.13	70.00	116.86	12.62	1,475.11
1940	7,082.97	70.00	101.19	12.97	1,312.61
1941	52,614.96	70.00	751.64	13.33	10,020.07
1942	7,934.56	70.00	113.35	13.69	1,552.27
1943	56,097.88	70.00	801.40	14.07	11,272.68
1944	56,682.57	70.00	809.75	14.44	11,696.47
1945	34,919.06	70.00	498.84	14.83	7,398.20
1946	20,866.12	70.00	298.09	15.22	4,538.20

FE 2025 Study - West Penn Power
Electric Division
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1947	33,095.90	70.00	472.80	15.63	7,387.75
1948	16,810.36	70.00	240.15	16.03	3,850.68
1949	97,177.99	70.00	1,388.25	16.45	22,839.68
1950	241,798.54	70.00	3,454.26	16.88	58,298.01
1951	76,849.02	70.00	1,097.84	17.31	19,004.78
1952	146,162.77	70.00	2,088.04	17.75	37,068.10
1953	59,499.62	70.00	849.99	18.20	15,471.61
1954	117,618.31	70.00	1,680.26	18.66	31,356.44
1955	24,886.25	70.00	355.52	19.13	6,800.33
1956	11,216,020.62	70.00	160,228.52	19.60	3,141,214.19
1957	353,887.10	70.00	5,055.52	20.09	101,555.38
1958	446,145.59	70.00	6,373.49	20.58	131,176.00
1959	334,184.80	70.00	4,774.06	21.08	100,647.45
1960	521,116.24	70.00	7,444.50	21.59	160,730.83
1961	277,473.12	70.00	3,963.89	22.11	87,643.26
1962	317,834.93	70.00	4,540.49	22.64	102,778.21
1963	166,040.48	70.00	2,372.00	23.17	54,965.00
1964	409,205.95	70.00	5,845.79	23.72	138,632.89
1965	349,656.04	70.00	4,995.08	24.27	121,219.83
1966	385,509.37	70.00	5,507.26	24.83	136,730.83
1967	259,917.02	70.00	3,713.09	25.39	94,290.84
1968	324,280.97	70.00	4,632.58	25.97	120,319.97
1969	197,439.20	70.00	2,820.55	26.56	74,902.33
1970	492,754.18	70.00	7,039.33	27.15	191,117.86
1971	198,147.29	70.00	2,830.67	27.75	78,549.81
1972	333,594.14	70.00	4,765.62	28.36	135,148.23
1973	305,987.00	70.00	4,371.23	28.97	126,654.17

FE 2025 Study - West Penn Power
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 70 **Survivor Curve:** R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1974	293,582.08	70.00	4,194.02	29.60	124,129.04
1975	354,362.90	70.00	5,062.32	30.23	153,033.92
1976	215,938.88	70.00	3,084.83	30.87	95,221.46
1977	281,710.43	70.00	4,024.43	31.52	126,831.35
1978	509,936.93	70.00	7,284.80	32.17	234,337.41
1979	932,002.34	70.00	13,314.29	32.83	437,106.03
1980	1,449,509.00	70.00	20,707.23	33.50	693,632.09
1981	455,851.64	70.00	6,512.15	34.17	222,523.52
1982	861,604.06	70.00	12,308.60	34.85	429,006.98
1983	1,287,122.90	70.00	18,387.43	35.54	653,520.93
1984	980,295.94	70.00	14,004.20	36.24	507,492.12
1985	919,324.06	70.00	13,133.17	36.94	485,136.19
1986	1,076,790.45	70.00	15,382.69	37.65	579,148.79
1987	962,017.34	70.00	13,743.08	38.36	527,238.24
1988	1,272,525.54	70.00	18,178.90	39.08	710,504.13
1989	1,165,266.71	70.00	16,646.63	39.81	662,761.16
1990	2,956,825.13	70.00	42,240.27	40.55	1,712,692.17
1991	2,982,994.46	70.00	42,614.12	41.29	1,759,445.42
1992	2,000,654.03	70.00	28,580.71	42.03	1,201,339.08
1993	1,449,334.31	70.00	20,704.73	42.79	885,877.34
1994	1,727,585.34	70.00	24,679.74	43.54	1,074,647.04
1995	3,471,207.54	70.00	49,588.57	44.31	2,197,082.00
1996	3,339,050.91	70.00	47,700.63	45.08	2,150,215.20
1997	1,913,168.33	70.00	27,330.92	45.85	1,253,162.27
1998	223,114.70	70.00	3,187.35	46.63	148,636.58
1999	40,868.66	70.00	583.84	47.42	27,684.84
2000	3,149.71	70.00	45.00	48.21	2,169.30

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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *70* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	32,262.95	70.00	460.90	49.01	22,587.57
2002	33.46	70.00	0.48	49.81	23.81
2003	23,317.12	70.00	333.10	50.62	16,860.76
2004	240,254.80	70.00	3,432.20	51.43	176,515.54
2006	45,342.63	70.00	647.75	53.07	34,375.92
2007	178,149.77	70.00	2,544.99	53.90	137,169.54
2008	887,191.73	70.00	12,674.14	54.73	693,651.85
2009	809,118.73	70.00	11,558.81	55.57	642,273.91
2010	3,171,085.33	70.00	45,301.12	56.41	2,555,375.20
2011	1,678,238.40	70.00	23,974.78	57.25	1,372,657.40
2012	1,831,747.27	70.00	26,167.76	58.11	1,520,503.34
2013	51.86	70.00	0.74	58.96	43.68
2014	133,319.92	70.00	1,904.57	59.82	113,933.25
2015	96,563.30	70.00	1,379.47	60.68	83,713.04
2016	821,526.19	70.00	11,736.06	61.55	722,381.22
2017	913,954.12	70.00	13,056.46	62.43	815,060.02
2018	1,334,283.07	70.00	19,061.15	63.30	1,206,603.87
2019	3,520,318.47	70.00	50,290.16	64.18	3,227,780.68
2020	2,521,929.77	70.00	36,027.49	65.07	2,344,209.92
2021	1,320,477.34	70.00	18,863.92	65.96	1,244,193.61
2022	1,024,004.80	70.00	14,628.61	66.85	977,896.65
2023	1,664,101.41	70.00	23,772.83	67.74	1,610,454.98
Total	73,660,720.07	70.00	1,052,293.75	41.78	43,968,652.10

Composite Average Remaining Life ... 41.78 Years

FE 2025 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1924	8,943.49	60.00	149.06	6.06	903.96
1925	17,742.08	60.00	295.70	6.37	1,882.60
1926	23,528.68	60.00	392.14	6.68	2,617.61
1927	42,561.36	60.00	709.34	6.98	4,952.29
1928	84,857.17	60.00	1,414.26	7.30	10,321.58
1929	96,744.98	60.00	1,612.38	7.61	12,269.95
1930	102,387.37	60.00	1,706.42	7.93	13,526.59
1931	107,379.15	60.00	1,789.62	8.25	14,762.47
1932	61,181.03	60.00	1,019.66	8.58	8,745.70
1933	49,763.58	60.00	829.38	8.91	7,386.10
1934	28,574.46	60.00	476.23	9.24	4,401.57
1935	40,237.24	60.00	670.61	9.58	6,423.06
1936	150,602.32	60.00	2,509.99	9.92	24,895.49
1937	8,664.69	60.00	144.41	10.26	1,482.22
1938	41,477.79	60.00	691.28	10.61	7,337.96
1939	232,209.27	60.00	3,870.08	10.97	42,447.05
1940	130,557.65	60.00	2,175.92	11.33	24,648.61
1941	261,761.30	60.00	4,362.60	11.69	50,993.73
1942	87,498.30	60.00	1,458.28	12.05	17,579.13
1943	38,466.81	60.00	641.10	12.43	7,965.97
1944	18,073.48	60.00	301.22	12.80	3,855.99
1945	40,511.54	60.00	675.18	13.18	8,899.20
1946	136,661.40	60.00	2,277.64	13.57	30,897.56
1947	282,660.71	60.00	4,710.92	13.95	65,734.08
1948	320,363.30	60.00	5,339.28	14.35	76,600.16
1949	439,136.91	60.00	7,318.80	14.74	107,911.41
1950	554,238.24	60.00	9,237.12	15.15	139,917.33

FE 2025 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1951	610,083.96	60.00	10,167.86	15.55	158,156.42
1952	497,434.55	60.00	8,290.41	15.97	132,373.38
1953	400,638.46	60.00	6,677.17	16.38	109,398.77
1954	598,266.21	60.00	9,970.91	16.81	167,571.47
1955	418,404.06	60.00	6,973.26	17.23	120,171.49
1956	439,856.72	60.00	7,330.80	17.67	129,500.96
1957	404,192.16	60.00	6,736.40	18.10	121,947.16
1958	675,415.13	60.00	11,256.70	18.54	208,755.04
1959	560,718.44	60.00	9,345.12	18.99	177,491.12
1960	613,315.94	60.00	10,221.73	19.45	198,773.40
1961	618,073.83	60.00	10,301.03	19.90	205,038.76
1962	630,193.67	60.00	10,503.02	20.37	213,928.60
1963	526,091.82	60.00	8,768.02	20.84	182,707.02
1964	591,548.62	60.00	9,858.95	21.31	210,122.30
1965	676,232.11	60.00	11,270.31	21.79	245,613.14
1966	729,016.92	60.00	12,150.04	22.28	270,694.25
1967	623,409.66	60.00	10,389.95	22.77	236,590.87
1968	942,901.77	60.00	15,714.72	23.27	365,651.31
1969	767,718.74	60.00	12,795.06	23.77	304,158.61
1970	993,111.53	60.00	16,551.53	24.28	401,862.93
1971	1,112,949.08	60.00	18,548.78	24.79	459,913.40
1972	1,161,521.17	60.00	19,358.30	25.32	490,068.59
1973	1,259,097.95	60.00	20,984.55	25.84	542,285.18
1974	1,077,778.87	60.00	17,962.62	26.37	473,740.70
1975	1,519,552.08	60.00	25,325.36	26.91	681,558.23
1976	1,431,725.18	60.00	23,861.61	27.45	655,114.07
1977	1,374,872.52	60.00	22,914.09	28.01	641,710.98

FE 2025 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1978	2,517,054.63	60.00	41,950.08	28.56	1,198,134.79
1979	2,243,010.20	60.00	37,382.76	29.12	1,088,672.78
1980	3,982,457.30	60.00	66,372.97	29.69	1,970,524.84
1981	3,525,612.30	60.00	58,759.04	30.26	1,778,155.02
1982	2,816,439.01	60.00	46,939.72	30.84	1,447,570.70
1983	2,879,935.57	60.00	47,997.97	31.42	1,508,273.43
1984	3,090,723.18	60.00	51,511.03	32.01	1,649,057.32
1985	3,436,384.04	60.00	57,271.93	32.61	1,867,569.88
1986	3,039,812.89	60.00	50,662.54	33.21	1,682,431.47
1987	2,928,060.54	60.00	48,800.04	33.81	1,650,161.57
1988	3,187,100.50	60.00	53,117.29	34.42	1,828,533.38
1989	4,107,564.41	60.00	68,458.05	35.04	2,398,856.60
1990	4,964,803.08	60.00	82,745.07	35.66	2,950,914.13
1991	5,218,445.43	60.00	86,972.36	36.29	3,156,115.57
1992	5,898,304.27	60.00	98,303.12	36.92	3,629,225.31
1993	4,053,926.84	60.00	67,564.10	37.55	2,537,325.25
1994	5,191,845.44	60.00	86,529.04	38.19	3,304,789.89
1995	7,015,417.16	60.00	116,921.30	38.84	4,540,927.54
1996	6,220,945.95	60.00	103,680.37	39.49	4,093,913.36
1997	8,102,580.13	60.00	135,040.32	40.14	5,420,250.27
1998	4,211,880.59	60.00	70,196.62	40.79	2,863,551.35
1999	11,190,826.18	60.00	186,510.06	41.45	7,731,416.42
2000	15,209,402.84	60.00	253,485.01	42.11	10,675,519.52
2001	4,166,686.47	60.00	69,443.39	42.78	2,970,911.75
2002	3,998,804.42	60.00	66,645.42	43.45	2,895,836.91
2003	2,140,016.91	60.00	35,666.24	44.12	1,573,729.01
2004	968,454.11	60.00	16,140.58	44.80	723,072.89

FE 2025 Study - West Penn Power
Electric Division
365.10 Overhead Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2005	5,192,909.77	60.00	86,546.78	45.48	3,935,850.00
2006	1,127,325.26	60.00	18,788.38	46.16	867,199.56
2007	3,737,238.34	60.00	62,286.07	46.84	2,917,454.68
2008	10,093,175.47	60.00	168,216.25	47.53	7,994,527.15
2009	2,022,568.85	60.00	33,708.81	48.21	1,625,181.85
2010	10,290,646.71	60.00	171,507.37	48.90	8,387,272.75
2011	12,556,750.42	60.00	209,275.02	49.60	10,379,334.61
2012	18,089,225.38	60.00	301,481.10	50.29	15,161,962.84
2013	18,487,618.30	60.00	308,120.85	50.99	15,711,309.84
2014	11,416,112.48	60.00	190,264.76	51.69	9,835,285.47
2015	13,019,472.18	60.00	216,986.89	52.40	11,369,536.83
2016	24,980,498.79	60.00	416,333.37	53.10	22,109,235.08
2017	25,110,189.39	60.00	418,494.84	53.82	22,521,693.49
2018	30,260,898.99	60.00	504,338.30	54.53	27,501,222.20
2019	41,285,104.20	60.00	688,071.40	55.25	38,014,268.12
2020	31,924,432.42	60.00	532,063.30	55.97	29,779,086.42
2021	35,135,669.65	60.00	585,582.86	56.69	33,198,978.32
2022	31,342,729.50	60.00	522,368.45	57.42	29,995,344.12
2023	29,466,689.95	60.00	491,101.74	58.15	28,559,663.45
2024	37,006,242.67	60.00	616,758.46	58.89	36,320,425.71
2025	52,568,099.95	60.00	876,117.59	59.63	52,242,551.56
Total	596,080,998.51	60.00	9,934,485.92	49.96	496,367,082.51

Composite Average Remaining Life ... 49.96 Years

FE 2025 Study - West Penn Power
Electric Division
365.15 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1915	14,533.55	60.00	242.22	3.36	814.69
1916	30,918.13	60.00	515.29	3.69	1,900.58
1917	13,367.34	60.00	222.78	3.98	887.74
1918	12,506.96	60.00	208.45	4.28	892.39
1919	25,756.10	60.00	429.26	4.58	1,965.17
1920	24,353.63	60.00	405.89	4.88	1,980.30
1921	92,081.88	60.00	1,534.67	5.17	7,935.92
1922	131,658.71	60.00	2,194.27	5.48	12,014.09
1923	86,926.09	60.00	1,448.74	5.77	8,355.23
1924	45,584.18	60.00	759.72	6.06	4,607.39
1925	65,248.53	60.00	1,087.45	6.37	6,923.48
1926	82,525.33	60.00	1,375.39	6.68	9,181.08
1927	101,723.18	60.00	1,695.35	6.98	11,836.16
1928	106,256.86	60.00	1,770.91	7.30	12,924.53
1929	85,478.82	60.00	1,424.62	7.61	10,841.09
1930	100,724.12	60.00	1,678.70	7.93	13,306.85
1931	125,124.49	60.00	2,085.37	8.25	17,202.09
1932	66,925.78	60.00	1,115.41	8.58	9,566.90
1933	40,517.62	60.00	675.28	8.91	6,013.78
1934	27,670.39	60.00	461.16	9.24	4,262.31
1935	47,953.76	60.00	799.21	9.58	7,654.85
1936	153,081.01	60.00	2,551.30	9.92	25,305.24
1937	58,835.45	60.00	980.57	10.26	10,064.62
1938	756.89	60.00	12.61	10.61	133.90
1939	4,401.70	60.00	73.36	10.97	804.62
1940	10,044.42	60.00	167.40	11.33	1,896.33
1941	41,966.89	60.00	699.43	11.69	8,175.57

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Electric Division
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Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 **Survivor Curve:** R1

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1942	1,731.79	60.00	28.86	12.05	347.93
1943	49,819.05	60.00	830.30	12.43	10,316.87
1944	15,442.63	60.00	257.37	12.80	3,294.70
1945	14,364.13	60.00	239.40	13.18	3,155.38
1946	15,131.57	60.00	252.19	13.57	3,421.07
1947	9,670.44	60.00	161.17	13.95	2,248.91
1948	28,737.28	60.00	478.95	14.35	6,871.20
1949	180,639.23	60.00	3,010.59	14.74	44,389.42
1950	219,067.96	60.00	3,651.06	15.15	55,303.66
1951	123,196.27	60.00	2,053.23	15.55	31,937.05
1952	143,150.97	60.00	2,385.80	15.97	38,094.21
1953	55,900.84	60.00	931.66	16.38	15,264.34
1954	205,972.43	60.00	3,432.81	16.81	57,691.88
1955	101,572.66	60.00	1,692.84	17.23	29,173.09
1956	77,913.83	60.00	1,298.54	17.67	22,939.10
1957	170,302.26	60.00	2,838.31	18.10	51,381.19
1958	200,074.90	60.00	3,334.52	18.54	61,838.48
1959	162,908.00	60.00	2,715.08	18.99	51,567.28
1960	340,287.99	60.00	5,671.35	19.45	110,286.06
1961	221,370.06	60.00	3,689.43	19.90	73,436.93
1962	490,137.02	60.00	8,168.79	20.37	166,384.29
1963	154,261.98	60.00	2,570.98	20.84	53,573.82
1964	328,299.21	60.00	5,471.54	21.31	116,614.23
1965	307,098.78	60.00	5,118.21	21.79	111,540.84
1966	316,704.66	60.00	5,278.31	22.28	117,596.90
1967	243,453.69	60.00	4,057.48	22.77	92,393.37
1968	414,625.07	60.00	6,910.28	23.27	160,788.97

FE 2025 Study - West Penn Power
Electric Division
365.15 Overhead Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1969	154,559.84	60.00	2,575.95	23.77	61,234.28
1970	462,868.75	60.00	7,714.33	24.28	187,300.00
1971	260,650.54	60.00	4,344.09	24.79	107,710.84
1972	431,712.95	60.00	7,195.07	25.32	182,148.17
1973	429,602.13	60.00	7,159.89	25.84	185,026.80
1974	290,177.16	60.00	4,836.19	26.37	127,548.18
1975	476,678.37	60.00	7,944.48	26.91	213,802.52
1976	328,228.82	60.00	5,470.37	27.45	150,187.57
1977	304,992.88	60.00	5,083.11	28.01	142,353.04
1978	840,165.29	60.00	14,002.48	28.56	399,924.28
1979	1,085,857.38	60.00	18,097.26	29.12	527,034.33
1980	1,819,797.52	60.00	30,329.36	29.69	900,438.08
1981	1,085,574.45	60.00	18,092.55	30.26	547,513.31
1982	1,393,705.53	60.00	23,227.96	30.84	716,325.57
1983	952,308.08	60.00	15,871.49	31.42	498,740.66
1984	1,059,206.33	60.00	17,653.09	32.01	565,140.21
1985	918,371.76	60.00	15,305.89	32.61	499,107.03
1986	1,045,949.54	60.00	17,432.15	33.21	578,896.96
1987	1,332,946.33	60.00	22,215.33	33.81	751,206.05
1988	1,170,642.38	60.00	19,510.32	34.42	671,631.99
1989	931,690.40	60.00	15,527.86	35.04	544,116.04
1990	2,553,506.01	60.00	42,557.59	35.66	1,517,719.20
1991	1,766,425.29	60.00	29,439.84	36.29	1,068,333.94
1992	1,303,841.59	60.00	21,730.26	36.92	802,253.44
1993	596,810.48	60.00	9,946.64	37.55	373,539.62
1994	1,011,855.24	60.00	16,863.92	38.19	644,080.99
1995	2,130,135.46	60.00	35,501.55	38.84	1,378,790.53

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Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	2,045,749.93	60.00	34,095.15	39.49	1,346,278.05
1997	1,221,810.18	60.00	20,363.10	40.14	817,334.34
1998	143,690.39	60.00	2,394.79	40.79	97,691.47
1999	319,671.65	60.00	5,327.75	41.45	220,851.85
2000	5.41	60.00	0.09	42.11	3.80
2001	26,542.94	60.00	442.37	42.78	18,925.53
2002	7.86	60.00	0.13	43.45	5.69
2003	34,615.69	60.00	576.92	44.12	25,455.74
2004	446,749.41	60.00	7,445.68	44.80	333,554.66
2005	66,586.84	60.00	1,109.76	45.48	50,468.01
2006	102,019.19	60.00	1,700.29	46.16	78,478.68
2007	230,152.38	60.00	3,835.80	46.84	179,667.20
2008	1,495,777.61	60.00	24,929.13	47.53	1,184,764.37
2009	1,346,265.73	60.00	22,437.32	48.21	1,081,756.32
2010	1,179,350.43	60.00	19,655.45	48.90	961,215.95
2011	2,189,196.12	60.00	36,485.88	49.60	1,809,576.39
2012	8,532.49	60.00	142.21	50.29	7,151.73
2013	292,185.68	60.00	4,869.66	50.99	248,307.80
2014	86,727.28	60.00	1,445.43	51.69	74,717.87
2015	78,537.32	60.00	1,308.93	52.40	68,584.42
2016	1,606,721.09	60.00	26,778.15	53.10	1,422,044.23
2017	1,554,706.53	60.00	25,911.26	53.82	1,394,438.86
2018	2,282,045.41	60.00	38,033.33	54.53	2,073,931.71
2019	3,495,760.56	60.00	58,261.52	55.25	3,218,806.92
2020	1,855,854.51	60.00	30,930.29	55.97	1,731,139.68
2021	1,081,700.61	60.00	18,027.99	56.69	1,022,076.87
2022	893,210.82	60.00	14,886.55	57.42	854,812.79

FE 2025 Study - West Penn Power
Electric Division
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And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *60* ***Survivor Curve:*** *R1*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2023	1,077,151.09	60.00	17,952.16	58.15	1,043,994.85
Total	57,488,342.16	60.00	958,120.00	39.03	37,397,437.49

Composite Average Remaining Life ... 39.03 Years

FE 2025 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1908	47.77	0.00	0.00	0.00	0.00
1909	28.31	0.00	0.00	0.00	0.00
1910	769.42	0.00	0.00	0.00	0.00
1911	361.38	0.00	0.00	0.00	0.00
1912	28,697.36	75.00	382.63	0.50	191.31
1913	10,044.95	75.00	133.93	0.62	82.93
1914	10,668.15	75.00	142.24	0.77	108.83
1915	12,005.83	75.00	160.08	0.84	134.82
1916	9,829.61	75.00	131.06	1.08	141.48
1917	8,591.62	75.00	114.55	1.30	148.63
1918	7,382.69	75.00	98.44	1.44	141.47
1919	3,571.00	75.00	47.61	1.67	79.59
1921	26,139.84	75.00	348.53	2.08	726.40
1922	14,860.59	75.00	198.14	2.32	460.67
1923	66,561.30	75.00	887.48	2.57	2,281.35
1924	72,172.57	75.00	962.30	2.78	2,673.24
1925	66,658.95	75.00	888.78	3.03	2,691.92
1926	85,894.28	75.00	1,145.25	3.29	3,762.53
1927	56,615.42	75.00	754.87	3.51	2,652.18
1928	40,751.10	75.00	543.35	3.77	2,050.17
1929	57,131.14	75.00	761.74	4.04	3,076.08
1930	54,302.46	75.00	724.03	4.28	3,099.26
1931	41,123.36	75.00	548.31	4.55	2,493.36
1932	68,851.16	75.00	918.01	4.82	4,423.75
1933	20,485.02	75.00	273.13	5.07	1,385.45
1934	15,053.77	75.00	200.72	5.35	1,073.09
1935	17,813.59	75.00	237.51	5.63	1,336.09

FE 2025 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1936	54,568.10	75.00	727.57	5.89	4,286.75
1937	35,566.43	75.00	474.22	6.18	2,929.02
1938	113,587.70	75.00	1,514.50	6.47	9,795.70
1939	187,537.98	75.00	2,500.49	6.75	16,887.44
1940	125,914.36	75.00	1,678.85	7.06	11,846.98
1941	179,961.96	75.00	2,399.48	7.37	17,681.53
1942	74,423.65	75.00	992.31	7.68	7,624.24
1943	67,528.64	75.00	900.38	8.01	7,216.41
1944	44,080.40	75.00	587.74	8.36	4,912.82
1945	112,586.98	75.00	1,501.15	8.71	13,080.33
1946	131,746.54	75.00	1,756.61	9.09	15,959.60
1947	231,380.99	75.00	3,085.06	9.47	29,225.23
1948	323,171.27	75.00	4,308.93	9.88	42,570.78
1949	370,532.43	75.00	4,940.41	10.30	50,904.19
1950	473,174.76	75.00	6,308.97	10.75	67,798.05
1951	348,331.41	75.00	4,644.40	11.21	52,084.77
1952	274,247.29	75.00	3,656.61	11.70	42,782.11
1953	188,702.94	75.00	2,516.03	12.21	30,709.82
1954	219,835.41	75.00	2,931.12	12.74	37,344.26
1955	158,585.61	75.00	2,114.46	13.29	28,103.74
1956	137,734.79	75.00	1,836.45	13.86	25,455.91
1957	189,030.51	75.00	2,520.39	14.46	36,443.94
1958	187,616.00	75.00	2,501.53	15.07	37,698.54
1959	181,472.81	75.00	2,419.63	15.70	37,979.93
1960	190,736.06	75.00	2,543.14	16.34	41,567.35
1961	216,483.46	75.00	2,886.43	17.00	49,072.30
1962	190,865.55	75.00	2,544.86	17.67	44,961.72

FE 2025 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1963	161,671.88	75.00	2,155.61	18.35	39,554.10
1964	152,603.26	75.00	2,034.70	19.04	38,732.53
1965	212,254.49	75.00	2,830.05	19.73	55,838.67
1966	183,053.36	75.00	2,440.70	20.44	49,886.07
1967	152,313.15	75.00	2,030.83	21.15	42,958.96
1968	192,532.33	75.00	2,567.09	21.88	56,158.21
1969	188,832.44	75.00	2,517.75	22.61	56,936.01
1970	188,666.16	75.00	2,515.54	23.36	58,756.42
1971	184,315.73	75.00	2,457.53	24.11	59,251.46
1972	237,422.45	75.00	3,165.62	24.88	78,753.62
1973	225,603.21	75.00	3,008.03	25.65	77,161.05
1974	239,434.03	75.00	3,192.44	26.43	84,391.56
1975	329,162.77	75.00	4,388.82	27.23	119,518.76
1976	269,641.10	75.00	3,595.20	28.04	100,796.99
1977	270,661.43	75.00	3,608.80	28.85	104,112.36
1978	375,314.46	75.00	5,004.17	29.68	148,506.34
1979	334,202.03	75.00	4,456.01	30.51	135,950.64
1980	591,872.35	75.00	7,891.59	31.35	247,410.03
1981	386,963.33	75.00	5,159.49	32.21	166,164.56
1982	341,284.10	75.00	4,550.43	33.07	150,464.09
1983	287,581.75	75.00	3,834.40	33.93	130,116.89
1984	601,546.06	75.00	8,020.58	34.81	279,228.34
1985	709,169.85	75.00	9,455.55	35.70	337,555.55
1986	831,099.75	75.00	11,081.28	36.59	405,480.76
1987	870,060.76	75.00	11,600.75	37.49	434,962.17
1988	843,242.46	75.00	11,243.18	38.40	431,757.81
1989	790,583.93	75.00	10,541.07	39.32	414,427.47

FE 2025 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1990	901,714.75	75.00	12,022.80	40.24	483,777.34
1991	896,781.95	75.00	11,957.03	41.17	492,213.56
1992	911,814.94	75.00	12,157.47	42.10	511,799.01
1993	784,744.10	75.00	10,463.20	43.04	450,309.18
1994	1,041,262.43	75.00	13,883.43	43.98	610,604.50
1995	1,426,801.51	75.00	19,023.93	44.93	854,721.26
1996	1,071,906.72	75.00	14,292.02	45.88	655,760.66
1997	2,000,465.87	75.00	26,672.75	46.84	1,249,354.42
1998	661,373.32	75.00	8,818.27	47.80	421,521.54
1999	1,800,039.88	75.00	24,000.41	48.77	1,170,424.53
2000	2,587,067.67	75.00	34,494.07	49.74	1,715,565.24
2001	202,289.68	75.00	2,697.18	50.71	136,764.04
2002	790,867.59	75.00	10,544.85	51.68	544,973.01
2003	405,618.18	75.00	5,408.22	52.66	284,788.22
2004	17,300.44	75.00	230.67	53.64	12,372.69
2005	351,510.28	75.00	4,686.78	54.62	255,992.37
2006	114,469.70	75.00	1,526.26	55.60	84,865.64
2007	64,583.39	75.00	861.11	56.59	48,729.50
2008	22.02	75.00	0.29	57.58	16.90
2009	7,623.56	75.00	101.65	58.57	5,953.04
2011	15,270,352.07	75.00	203,603.70	60.55	12,327,735.64
2012	12,780,522.38	75.00	170,406.13	61.54	10,486,825.71
2013	42,057,691.05	75.00	560,766.48	62.53	35,066,745.94
2014	33,967,848.30	75.00	452,902.43	63.53	28,772,060.58
2015	29,759,265.91	75.00	396,788.28	64.52	25,602,075.87
2016	23,189,868.64	75.00	309,196.74	65.52	20,258,263.59
2017	5,740,961.87	75.00	76,545.78	66.52	5,091,484.33

FE 2025 Study - West Penn Power
Electric Division
365.20 Overhead Conductors - Clearing and Damages
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2018	43,676,569.88	75.00	582,351.42	67.51	39,315,964.76
2019	29,797,522.79	75.00	397,298.37	68.51	27,218,818.90
2020	24,405,763.43	75.00	325,408.59	69.51	22,618,380.54
2021	20,702,449.18	75.00	276,031.31	70.51	19,461,788.62
2022	1,265,699.35	75.00	16,875.91	71.50	1,206,696.84
2023	592,435.25	75.00	7,899.10	72.50	572,706.95
2024	5,332,666.38	75.00	71,101.87	73.50	5,226,108.55
2025	4,843,757.95	75.00	64,583.12	74.50	4,811,490.75
Total	325,378,537.70	72.41	4,338,343.25	62.96	273,134,623.70

Composite Average Remaining Life ... 62.96 Years

FE 2025 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1926	176.71	75.00	2.36	3.29	7.74
1927	11,476.90	75.00	153.02	3.51	537.64
1928	879.44	75.00	11.73	3.77	44.24
1931	966.10	75.00	12.88	4.55	58.58
1932	4,882.53	75.00	65.10	4.82	313.71
1933	11,588.79	75.00	154.52	5.07	783.78
1934	184.66	75.00	2.46	5.35	13.16
1935	16.48	75.00	0.22	5.63	1.24
1936	4,522.32	75.00	60.30	5.89	355.26
1937	571.15	75.00	7.62	6.18	47.04
1938	56.99	75.00	0.76	6.47	4.91
1940	279.50	75.00	3.73	7.06	26.30
1941	26.62	75.00	0.35	7.37	2.62
1943	20,130.93	75.00	268.41	8.01	2,151.28
1944	210.97	75.00	2.81	8.36	23.51
1945	2,931.33	75.00	39.08	8.71	340.56
1946	90.51	75.00	1.21	9.09	10.96
1947	1,651.27	75.00	22.02	9.47	208.57
1948	398.37	75.00	5.31	9.88	52.48
1949	910.43	75.00	12.14	10.30	125.08
1950	15,549.47	75.00	207.33	10.75	2,227.98
1951	5,474.07	75.00	72.99	11.21	818.52
1952	5,666.27	75.00	75.55	11.70	883.93
1953	5,248.83	75.00	69.98	12.21	854.20
1954	4,874.38	75.00	64.99	12.74	828.03
1955	3,731.32	75.00	49.75	13.29	661.25
1956	3,494.07	75.00	46.59	13.86	645.77

FE 2025 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 75 **Survivor Curve:** R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1957	5,725.26	75.00	76.34	14.46	1,103.80
1958	758.53	75.00	10.11	15.07	152.41
1959	1.46	75.00	0.02	15.70	0.31
1960	101,306.15	75.00	1,350.74	16.34	22,077.78
1961	7,545.39	75.00	100.60	17.00	1,710.38
1962	1,215.01	75.00	16.20	17.67	286.22
1963	21,522.58	75.00	286.97	18.35	5,265.64
1964	17,680.62	75.00	235.74	19.04	4,487.55
1965	6,556.56	75.00	87.42	19.73	1,724.86
1966	26,386.97	75.00	351.82	20.44	7,191.03
1967	9,982.31	75.00	133.10	21.15	2,815.45
1968	34,282.26	75.00	457.09	21.88	9,999.52
1969	908.87	75.00	12.12	22.61	274.04
1970	45,044.93	75.00	600.60	23.36	14,028.37
1971	2,854.85	75.00	38.06	24.11	917.74
1972	6,518.41	75.00	86.91	24.88	2,162.17
1973	3,377.60	75.00	45.03	25.65	1,155.21
1974	590.35	75.00	7.87	26.43	208.08
1975	3,725.78	75.00	49.68	27.23	1,352.83
1976	365.41	75.00	4.87	28.04	136.60
1978	1,567.27	75.00	20.90	29.68	620.15
1979	57,249.98	75.00	763.33	30.51	23,288.82
1980	31,521.69	75.00	420.29	31.35	13,176.46
1989	206,945.03	75.00	2,759.25	39.32	108,481.47
1990	387,918.52	75.00	5,172.22	40.24	208,121.46
1991	432,458.78	75.00	5,766.09	41.17	237,362.13
1992	155,406.46	75.00	2,072.08	42.10	87,229.18

FE 2025 Study - West Penn Power
Electric Division
365.25 Overhead Conductors - Clearing - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *75* ***Survivor Curve:*** *R4*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1993	196,252.86	75.00	2,616.69	43.04	112,615.65
1994	111,996.20	75.00	1,493.28	43.98	65,675.45
1995	994,725.81	75.00	13,262.95	44.93	595,887.58
1996	715,764.96	75.00	9,543.49	45.88	437,883.72
1997	624,235.79	75.00	8,323.10	46.84	389,855.06
1998	53,834.56	75.00	717.79	47.80	34,311.07
1999	13,275.99	75.00	177.01	48.77	8,632.33
2001	1,241.22	75.00	16.55	50.71	839.16
2004	32,512.02	75.00	433.49	53.64	23,251.50
2005	876.04	75.00	11.68	54.62	637.99
2011	2,534,623.05	75.00	33,794.81	60.55	2,046,197.94
2013	3,172,428.36	75.00	42,298.84	62.53	2,645,098.59
2014	1,852,815.14	75.00	24,704.08	63.53	1,569,404.96
2015	2,730,846.74	75.00	36,411.11	64.52	2,349,363.91
2016	433,784.18	75.00	5,783.76	65.52	378,946.27
2017	805,675.05	75.00	10,742.28	66.52	714,528.68
2018	3,071,604.64	75.00	40,954.53	67.51	2,764,940.11
2019	1,645,698.10	75.00	21,942.53	68.51	1,503,277.94
2020	1,850,167.93	75.00	24,668.79	69.51	1,714,668.85
2021	2,437,194.68	75.00	32,495.77	70.51	2,291,137.98
2022	5,166.66	75.00	68.89	71.50	4,925.81
2023	5.99	75.00	0.08	72.50	5.79
Total	24,960,133.41	75.00	332,800.16	61.36	20,419,444.31

Composite Average Remaining Life ... 61.36 Years

FE 2025 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1922	8.90	65.00	0.14	1.53	0.21
1925	66.58	65.00	1.02	2.27	2.32
1926	33.15	65.00	0.51	2.49	1.27
1927	118.73	65.00	1.83	2.76	5.04
1928	164.18	65.00	2.53	2.99	7.55
1929	135.01	65.00	2.08	3.24	6.72
1930	84.54	65.00	1.30	3.50	4.55
1931	84.54	65.00	1.30	3.75	4.88
1932	75.41	65.00	1.16	4.02	4.66
1933	5,976.36	65.00	91.94	4.27	392.26
1934	168.17	65.00	2.59	4.53	11.72
1935	100.86	65.00	1.55	4.78	7.42
1936	193.21	65.00	2.97	5.05	15.00
1937	328.84	65.00	5.06	5.30	26.79
1939	191.94	65.00	2.95	5.81	17.17
1941	662.40	65.00	10.19	6.34	64.57
1942	70.35	65.00	1.08	6.60	7.14
1943	176.53	65.00	2.72	6.87	18.67
1944	867.41	65.00	13.34	7.15	95.37
1945	2,804.03	65.00	43.14	7.43	320.57
1946	116.01	65.00	1.78	7.72	13.77
1947	72.03	65.00	1.11	8.01	8.88
1948	3,674.19	65.00	56.53	8.32	470.11
1949	2,904.47	65.00	44.68	8.63	385.75
1950	1,418.63	65.00	21.83	8.95	195.44
1954	622.51	65.00	9.58	10.37	99.28
1955	58.80	65.00	0.90	10.75	9.73

FE 2025 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1956	678.62	65.00	10.44	11.15	116.39
1957	91.14	65.00	1.40	11.56	16.21
1958	1,624.16	65.00	24.99	11.99	299.50
1959	976.33	65.00	15.02	12.43	186.66
1960	1,364.94	65.00	21.00	12.88	270.49
1961	1,653.27	65.00	25.43	13.35	339.60
1962	6,740.17	65.00	103.69	13.83	1,434.58
1963	13,097.42	65.00	201.50	14.34	2,888.54
1964	5,555.63	65.00	85.47	14.85	1,268.97
1965	235,958.31	65.00	3,630.13	15.38	55,820.45
1966	32,873.93	65.00	505.75	15.92	8,050.03
1967	24,371.47	65.00	374.95	16.48	6,177.64
1968	64,759.14	65.00	996.29	17.05	16,984.43
1969	58,491.24	65.00	899.87	17.63	15,865.20
1970	107,077.40	65.00	1,647.34	18.23	30,030.26
1971	30,448.37	65.00	468.44	18.84	8,824.73
1972	70,066.74	65.00	1,077.95	19.46	20,980.84
1973	161,967.38	65.00	2,491.81	20.10	50,079.71
1974	129,673.24	65.00	1,994.97	20.75	41,390.58
1975	147,751.32	65.00	2,273.10	21.41	48,655.94
1976	127,429.28	65.00	1,960.45	22.08	43,283.12
1977	91,279.51	65.00	1,404.30	22.76	31,959.22
1978	155,373.59	65.00	2,390.36	23.45	56,061.47
1979	265,808.27	65.00	4,089.36	24.15	98,774.73
1980	193,453.67	65.00	2,976.21	24.87	74,017.87
1981	118,927.72	65.00	1,829.66	25.59	46,828.15
1982	267,494.29	65.00	4,115.30	26.33	108,338.88

FE 2025 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1983	157,352.51	65.00	2,420.81	27.07	65,529.25
1984	283,397.56	65.00	4,359.96	27.82	121,291.69
1985	196,307.06	65.00	3,020.11	28.58	86,317.56
1986	461,238.82	65.00	7,095.98	29.35	208,258.05
1987	436,217.70	65.00	6,711.04	30.13	202,188.25
1988	547,012.37	65.00	8,415.58	30.91	260,144.83
1989	666,464.23	65.00	10,253.30	31.71	325,112.24
1990	557,903.98	65.00	8,583.14	32.51	279,028.43
1991	743,118.83	65.00	11,432.60	33.32	380,944.06
1992	897,453.24	65.00	13,806.97	34.14	471,333.93
1993	594,800.69	65.00	9,150.78	34.96	319,956.99
1994	657,146.55	65.00	10,109.95	35.80	361,927.01
1995	1,032,097.54	65.00	15,878.42	36.64	581,775.43
1996	953,416.29	65.00	14,667.94	37.49	549,877.22
1997	772,768.72	65.00	11,888.75	38.34	455,850.33
1998	467,739.06	65.00	7,195.99	39.21	282,128.20
1999	307,379.63	65.00	4,728.92	40.07	189,510.40
2000	1,131,481.31	65.00	17,407.40	40.95	712,865.89
2001	571,518.67	65.00	8,792.60	41.83	367,825.77
2002	863,903.03	65.00	13,290.82	42.72	567,833.75
2003	1,099,359.60	65.00	16,913.22	43.62	737,722.76
2004	716,162.61	65.00	11,017.89	44.52	490,523.91
2005	521,626.60	65.00	8,025.02	45.43	364,552.51
2006	466,759.58	65.00	7,180.92	46.34	332,772.43
2007	1,028,603.87	65.00	15,824.68	47.26	747,878.19
2008	353,903.70	65.00	5,444.67	48.18	262,345.00
2009	411,269.10	65.00	6,327.22	49.11	310,750.83

FE 2025 Study - West Penn Power
Electric Division
366.00 Underground Conduit
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2010	592,190.50	65.00	9,110.62	50.05	455,958.21
2011	696,571.04	65.00	10,716.48	50.99	546,391.50
2012	459,876.64	65.00	7,075.03	51.93	367,397.61
2013	101,578.35	65.00	1,562.74	52.88	82,633.00
2014	214,198.99	65.00	3,295.37	53.83	177,382.84
2015	144,979.96	65.00	2,230.46	54.78	122,193.46
2016	632,625.62	65.00	9,732.70	55.74	542,525.37
2017	99,218.15	65.00	1,526.43	56.71	86,557.44
2018	215,114.77	65.00	3,309.46	57.67	190,859.71
2019	302,363.75	65.00	4,651.75	58.64	272,780.71
2020	631,155.47	65.00	9,710.08	59.61	578,841.45
2021	332,360.73	65.00	5,113.24	60.59	309,794.20
2022	246,301.85	65.00	3,789.26	61.56	233,281.13
2023	740,222.25	65.00	11,388.03	62.54	712,239.55
Total	24,641,325.25	65.00	379,097.32	40.85	15,486,222.13

Composite Average Remaining Life ... 40.85 Years

FE 2025 Study - West Penn Power
Electric Division
366.50 Underground Conduit - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *65* ***Survivor Curve:*** *R3*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	339.99	65.00	5.23	53.83	281.55
2015	2,253.78	65.00	34.67	54.78	1,899.55
2017	863.00	65.00	13.28	56.71	752.88
2018	5,757.08	65.00	88.57	57.67	5,107.95
2019	1,821.40	65.00	28.02	58.64	1,643.20
Total	11,035.25	65.00	169.77	57.05	9,685.13

Composite Average Remaining Life ... 57.05 Years

FE 2025 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 **Survivor Curve:** R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1945	743.53	55.00	13.52	5.38	72.68
1946	82.44	55.00	1.50	5.61	8.41
1947	231.94	55.00	4.22	5.83	24.58
1948	26.81	55.00	0.49	6.06	2.95
1949	2,055.53	55.00	37.37	6.29	234.89
1950	7.37	55.00	0.13	6.52	0.87
1951	627.47	55.00	11.41	6.76	77.09
1953	8,287.31	55.00	150.68	7.25	1,092.31
1954	1,566.32	55.00	28.48	7.50	213.58
1955	17.32	55.00	0.31	7.76	2.44
1957	809.37	55.00	14.72	8.30	122.10
1958	1,599.20	55.00	29.08	8.58	249.37
1959	1,193.35	55.00	21.70	8.87	192.37
1960	1,265.55	55.00	23.01	9.17	210.92
1961	1,715.79	55.00	31.20	9.48	295.71
1962	7,375.80	55.00	134.11	9.80	1,314.75
1963	28,874.91	55.00	525.00	10.14	5,324.83
1964	26,663.11	55.00	484.78	10.49	5,087.14
1965	135,045.08	55.00	2,455.36	10.86	26,663.59
1966	120,044.54	55.00	2,182.62	11.24	24,532.66
1967	17,357.94	55.00	315.60	11.64	3,672.27
1968	96,657.45	55.00	1,757.40	12.05	21,170.21
1969	61,173.01	55.00	1,112.23	12.47	13,873.53
1970	133,049.19	55.00	2,419.07	12.92	31,246.66
1971	59,560.40	55.00	1,082.91	13.38	14,485.00
1972	185,491.10	55.00	3,372.56	13.85	46,712.98
1973	156,940.84	55.00	2,853.46	14.34	40,923.07

FE 2025 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1974	292,017.68	55.00	5,309.40	14.85	78,823.09
1975	428,762.10	55.00	7,795.66	15.37	119,805.84
1976	288,604.94	55.00	5,247.35	15.91	83,462.40
1977	177,745.49	55.00	3,231.73	16.46	53,186.63
1978	385,427.44	55.00	7,007.76	17.02	119,299.92
1979	508,425.65	55.00	9,244.08	17.60	162,713.31
1980	991,925.45	55.00	18,034.97	18.20	328,179.74
1981	601,298.11	55.00	10,932.67	18.80	205,588.22
1982	543,181.57	55.00	9,876.01	19.43	191,848.99
1983	470,144.73	55.00	8,548.07	20.06	171,465.00
1984	794,023.65	55.00	14,436.76	20.70	298,899.25
1985	888,714.80	55.00	16,158.42	21.36	345,126.98
1986	1,122,652.49	55.00	20,411.82	22.03	449,630.11
1987	1,128,595.47	55.00	20,519.88	22.71	465,959.77
1988	1,756,777.66	55.00	31,941.35	23.40	747,365.57
1989	1,390,457.42	55.00	25,280.99	24.10	609,237.59
1990	1,457,361.97	55.00	26,497.44	24.81	657,326.90
1991	1,858,237.64	55.00	33,786.07	25.53	862,504.56
1992	2,463,350.53	55.00	44,788.10	26.26	1,176,093.12
1993	1,896,745.83	55.00	34,486.22	27.00	931,090.85
1994	2,696,582.69	55.00	49,028.68	27.75	1,360,439.25
1995	3,359,111.64	55.00	61,074.63	28.51	1,740,967.70
1996	3,656,372.82	55.00	66,479.37	29.27	1,945,890.84
1997	5,258,281.44	55.00	95,604.92	30.05	2,872,573.92
1998	732,544.60	55.00	13,318.97	30.83	410,627.58
1999	6,350,369.89	55.00	115,461.03	31.62	3,651,156.52
2000	10,339,922.43	55.00	187,998.21	32.42	6,095,374.32

FE 2025 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2001	585,925.76	55.00	10,653.17	33.23	353,993.17
2002	3,260,442.33	55.00	59,280.65	34.05	2,018,220.83
2003	2,656,630.67	55.00	48,302.28	34.87	1,684,248.95
2004	1,754,701.46	55.00	31,903.60	35.70	1,138,957.88
2005	3,637,164.50	55.00	66,130.13	36.54	2,416,273.80
2006	3,144,040.09	55.00	57,164.25	37.38	2,136,989.46
2007	9,655,239.07	55.00	175,549.44	38.23	6,712,000.25
2008	10,403,706.56	55.00	189,157.91	39.09	7,394,823.88
2009	1,586,178.94	55.00	28,839.56	39.96	1,152,397.47
2010	5,485,334.90	55.00	99,733.16	40.83	4,072,170.69
2011	5,937,098.77	55.00	107,947.03	41.71	4,502,301.25
2012	5,632,260.12	55.00	102,404.52	42.59	4,361,508.16
2013	5,746,276.84	55.00	104,477.55	43.48	4,542,758.71
2014	6,673,780.23	55.00	121,341.21	44.38	5,384,623.09
2015	7,563,403.45	55.00	137,516.15	45.28	6,226,217.99
2016	8,170,869.22	55.00	148,560.95	46.18	6,860,796.96
2017	7,902,477.60	55.00	143,681.12	47.09	6,766,226.11
2018	12,077,150.96	55.00	219,584.11	48.01	10,541,406.06
2019	15,485,887.82	55.00	281,561.02	48.93	13,775,652.84
2020	14,629,691.83	55.00	265,993.85	49.85	13,259,792.69
2021	11,543,583.01	55.00	209,882.90	50.78	10,657,447.86
2022	12,547,015.28	55.00	228,127.08	51.71	11,796,458.47
2023	14,422,381.24	55.00	262,224.58	52.65	13,804,830.11
2024	13,751,873.14	55.00	250,033.55	53.58	13,397,945.55
2025	10,733,587.63	55.00	195,155.74	54.53	10,641,349.00

FE 2025 Study - West Penn Power
Electric Division
367.00 Underground Conductors and Devices
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Total	247,872,800.22	55.00	4,506,768.97	42.60	191,971,836.19

Composite Average Remaining Life ... *42.60 Years*

FE 2025 Study - West Penn Power
Electric Division
367.50 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1974	257.39	55.00	4.68	14.85	69.48
1975	9,909.08	55.00	180.16	15.37	2,768.82
1976	12,061.36	55.00	219.30	15.91	3,488.06
1977	2,586.87	55.00	47.03	16.46	774.07
1978	8,508.96	55.00	154.71	17.02	2,633.75
1979	7,746.71	55.00	140.85	17.60	2,479.21
1980	24,424.68	55.00	444.08	18.20	8,080.94
1981	19,962.71	55.00	362.96	18.80	6,825.40
1982	35,025.80	55.00	636.83	19.43	12,370.94
1983	21,904.64	55.00	398.27	20.06	7,988.77
1984	13,639.11	55.00	247.98	20.70	5,134.25
1985	8,601.83	55.00	156.40	21.36	3,340.47
1986	42,722.03	55.00	776.76	22.03	17,110.47
1988	94,025.00	55.00	1,709.54	23.40	39,999.97
1989	120,896.67	55.00	2,198.12	24.10	52,971.63
1990	28,362.07	55.00	515.67	24.81	12,792.40
1991	41,887.31	55.00	761.59	25.53	19,442.08
1992	88,791.32	55.00	1,614.38	26.26	42,392.20
1993	40,153.51	55.00	730.06	27.00	19,710.90
1994	260,718.95	55.00	4,740.33	27.75	131,533.99
1995	285,807.01	55.00	5,196.48	28.51	148,128.68
1996	248,196.38	55.00	4,512.65	29.27	132,088.02
1997	299,852.64	55.00	5,451.86	30.05	163,808.06
1998	2,993,590.71	55.00	54,428.81	30.83	1,678,056.07
1999	33,399.18	55.00	607.26	31.62	19,202.92
2000	723,599.68	55.00	13,156.33	32.42	426,561.31
2001	173,097.38	55.00	3,147.22	33.23	104,578.59

FE 2025 Study - West Penn Power
Electric Division
367.50 Underground Conductors - Subtrans
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2002	265,286.68	55.00	4,823.38	34.05	164,213.03
2003	32,644.15	55.00	593.53	34.87	20,695.72
2004	107,692.66	55.00	1,958.04	35.70	69,902.15
2005	1,132,280.55	55.00	20,586.88	36.54	752,206.79
2006	73,813.31	55.00	1,342.06	37.38	50,170.56
2007	1,075,677.99	55.00	19,557.74	38.23	747,775.47
2008	1,804,950.50	55.00	32,817.21	39.09	1,282,936.13
2009	255,638.16	55.00	4,647.96	39.96	185,727.32
2010	646,839.42	55.00	11,760.69	40.83	480,196.85
2011	2,110,521.45	55.00	38,373.04	41.71	1,600,479.25
2013	6,667.18	55.00	121.22	43.48	5,270.79
2014	16,863.11	55.00	306.60	44.38	13,605.71
2015	12,278.66	55.00	223.25	45.28	10,107.83
2016	2,655.67	55.00	48.28	46.18	2,229.87
2017	8,235.16	55.00	149.73	47.09	7,051.07
2018	38,418.25	55.00	698.51	48.01	33,532.94
2019	13,549.11	55.00	246.35	48.93	12,052.77
2020	100,750.80	55.00	1,831.83	49.85	91,316.67
2023	275,565.94	55.00	5,010.28	52.65	263,766.50
Total	13,620,057.73	55.00	247,636.91	35.77	8,857,568.84

Composite Average Remaining Life ... 35.77 Years

FE 2025 Study - West Penn Power
Electric Division
368.00 Line Transformers
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1929	5,864.37	0.00	0.00	0.00	0.00
1930	6,836.20	48.00	142.42	0.50	71.21
1931	2,192.92	48.00	45.69	0.72	33.03
1934	1,571.52	48.00	32.74	1.67	54.78
1936	1,253.30	48.00	26.11	2.33	60.91
1937	3,331.81	48.00	69.41	2.66	184.61
1938	1,360.19	48.00	28.34	2.96	83.92
1939	9,706.38	48.00	202.21	3.24	654.23
1940	22,029.85	48.00	458.95	3.49	1,599.78
1941	16,089.05	48.00	335.18	3.72	1,247.09
1942	5,104.81	48.00	106.35	3.95	419.78
1944	1,822.06	48.00	37.96	4.40	166.90
1945	15,973.08	48.00	332.77	4.63	1,539.60
1946	65,603.35	48.00	1,366.72	4.86	6,644.99
1947	141,259.57	48.00	2,942.87	5.10	15,019.55
1948	157,788.15	48.00	3,287.21	5.34	17,569.53
1949	101,242.70	48.00	2,109.20	5.60	11,812.08
1950	113,307.95	48.00	2,360.55	5.86	13,837.01
1951	120,576.19	48.00	2,511.97	6.13	15,395.51
1952	105,813.26	48.00	2,204.41	6.40	14,110.76
1953	131,669.73	48.00	2,743.08	6.68	18,318.96
1954	123,867.04	48.00	2,580.53	6.96	17,960.15
1955	343,929.66	48.00	7,165.11	7.25	51,917.47
1956	326,365.24	48.00	6,799.19	7.54	51,239.83
1957	236,178.14	48.00	4,920.31	7.83	38,530.09
1958	447,774.78	48.00	9,328.52	8.13	75,840.66
1959	332,210.88	48.00	6,920.97	8.43	58,370.85

FE 2025 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1960	332,406.32	48.00	6,925.04	8.74	60,525.34
1961	267,204.08	48.00	5,566.68	9.05	50,405.30
1962	230,064.94	48.00	4,792.96	9.38	44,936.79
1963	188,682.90	48.00	3,930.84	9.70	38,140.28
1964	252,736.68	48.00	5,265.28	10.04	52,847.71
1965	355,494.42	48.00	7,406.04	10.38	76,864.60
1966	257,586.54	48.00	5,366.32	10.73	57,570.66
1967	219,897.67	48.00	4,581.14	11.09	50,786.58
1968	314,034.52	48.00	6,542.30	11.45	74,926.46
1969	874,502.62	48.00	18,218.56	11.83	215,495.98
1970	1,462,087.68	48.00	30,459.76	12.21	372,023.67
1971	1,450,365.56	48.00	30,215.55	12.61	380,977.45
1972	1,447,912.83	48.00	30,164.45	13.01	392,559.99
1973	1,749,118.76	48.00	36,439.49	13.43	489,369.12
1974	2,516,795.26	48.00	52,432.54	13.86	726,494.61
1975	1,792,919.53	48.00	37,352.00	14.29	533,858.09
1976	3,025,088.69	48.00	63,021.85	14.74	928,957.11
1977	4,167,881.24	48.00	86,829.71	15.20	1,319,700.11
1978	4,804,306.78	48.00	100,088.40	15.67	1,568,195.16
1979	4,043,058.65	48.00	84,229.27	16.15	1,360,170.17
1980	4,134,519.98	48.00	86,134.69	16.64	1,433,253.38
1981	4,693,316.22	48.00	97,776.13	17.14	1,676,061.29
1982	4,723,271.16	48.00	98,400.18	17.65	1,737,236.81
1983	5,426,629.42	48.00	113,053.28	18.18	2,055,147.29
1984	5,183,901.42	48.00	107,996.52	18.71	2,021,102.48
1985	6,382,308.84	48.00	132,963.01	19.26	2,560,828.12
1986	6,068,436.31	48.00	126,424.08	19.82	2,505,133.03

FE 2025 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1987	7,188,734.91	48.00	149,763.33	20.38	3,052,358.24
1988	7,885,844.86	48.00	164,286.26	20.96	3,442,986.85
1989	9,463,413.85	48.00	197,151.85	21.54	4,247,289.94
1990	9,000,243.89	48.00	187,502.60	22.14	4,151,126.72
1991	7,453,387.41	48.00	155,276.85	22.74	3,531,684.18
1992	9,292,967.94	48.00	193,600.94	23.36	4,522,373.59
1993	7,011,611.17	48.00	146,073.30	23.98	3,503,319.72
1994	8,574,053.62	48.00	178,623.75	24.62	4,397,066.23
1995	9,176,039.94	48.00	191,164.97	25.26	4,828,488.26
1996	5,449,888.82	48.00	113,537.85	25.91	2,941,791.48
1997	13,000,126.31	48.00	270,832.38	26.57	7,195,800.78
1998	4,513,913.39	48.00	94,038.62	27.24	2,561,265.17
1999	8,041,211.63	48.00	167,523.03	27.91	4,675,788.26
2000	15,603,935.16	48.00	325,077.68	28.59	9,295,267.84
2001	7,377,435.61	48.00	153,694.54	29.28	4,500,804.59
2002	4,422,884.42	48.00	92,142.21	29.98	2,762,550.72
2003	4,930,081.08	48.00	102,708.66	30.69	3,151,679.69
2004	7,094,065.11	48.00	147,791.07	31.40	4,640,135.53
2005	7,739,899.84	48.00	161,245.78	32.11	5,178,250.31
2006	1,336,258.55	48.00	27,838.35	32.84	914,147.01
2007	8,418,282.53	48.00	175,378.57	33.57	5,886,997.47
2008	22,128,518.89	48.00	461,004.71	34.30	15,814,298.30
2009	1,897,597.91	48.00	39,532.77	35.05	1,385,431.29
2010	19,724,887.34	48.00	410,929.72	35.79	14,707,863.13
2011	24,338,994.05	48.00	507,055.67	36.54	18,529,554.51
2012	11,002,092.49	48.00	229,207.23	37.30	8,549,492.31
2013	9,879,118.60	48.00	205,812.25	38.06	7,833,651.11

FE 2025 Study - West Penn Power
Electric Division
368.00 Line Transformers

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *48* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2014	9,242,994.19	48.00	192,559.83	38.83	7,476,895.24
2015	10,409,966.18	48.00	216,871.43	39.60	8,588,267.44
2016	11,683,176.93	48.00	243,396.30	40.38	9,827,725.08
2017	11,324,259.86	48.00	235,918.96	41.16	9,710,213.75
2018	14,016,746.62	48.00	292,011.69	41.95	12,248,620.10
2019	20,007,992.17	48.00	416,827.66	42.74	17,813,997.87
2020	16,215,458.22	48.00	337,817.58	43.53	14,706,661.69
2021	16,312,640.98	48.00	339,842.19	44.34	15,067,102.07
2022	19,703,951.08	48.00	410,493.55	45.14	18,530,362.19
2023	21,277,434.90	48.00	443,274.03	45.95	20,369,569.15
2024	22,623,283.77	48.00	471,312.18	46.77	22,042,424.96
2025	24,448,088.23	48.00	509,328.44	47.59	24,238,248.82
Total	518,416,733.65	47.48	10,800,083.61	33.33	360,017,802.48

Composite Average Remaining Life ... 33.33 Years

FE 2025 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1949	57.46	55.00	1.04	6.29	6.57
1952	28.84	55.00	0.52	7.01	3.67
1954	93,097.98	55.00	1,692.69	7.50	12,694.37
1955	128,923.44	55.00	2,344.06	7.76	18,181.79
1956	207,516.95	55.00	3,773.03	8.02	30,263.26
1957	225,093.67	55.00	4,092.60	8.30	33,958.28
1958	177,323.40	55.00	3,224.06	8.58	27,651.09
1959	187,707.34	55.00	3,412.85	8.87	30,258.12
1960	211,131.21	55.00	3,838.74	9.17	35,187.85
1961	248,830.18	55.00	4,524.18	9.48	42,884.31
1962	233,545.50	55.00	4,246.27	9.80	41,629.76
1963	213,689.36	55.00	3,885.25	10.14	39,406.54
1964	232,647.16	55.00	4,229.94	10.49	44,387.53
1965	242,751.75	55.00	4,413.66	10.86	47,929.42
1966	251,196.64	55.00	4,567.20	11.24	51,335.30
1967	214,102.61	55.00	3,892.77	11.64	45,295.81
1968	313,087.90	55.00	5,692.50	12.05	68,573.45
1969	332,526.82	55.00	6,045.93	12.47	75,414.34
1970	339,072.89	55.00	6,164.95	12.92	79,631.42
1971	388,500.09	55.00	7,063.62	13.38	94,482.64
1972	647,003.85	55.00	11,763.68	13.85	162,937.61
1973	789,054.68	55.00	14,346.42	14.34	205,749.76
1974	763,492.73	55.00	13,881.66	14.85	206,086.35
1975	1,298,009.16	55.00	23,600.12	15.37	362,693.17
1976	1,069,783.61	55.00	19,450.57	15.91	309,373.44
1977	1,355,331.97	55.00	24,642.35	16.46	405,554.84
1978	1,505,507.62	55.00	27,372.81	17.02	465,994.18

FE 2025 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1979	1,506,227.53	55.00	27,385.90	17.60	482,043.48
1980	1,321,633.01	55.00	24,029.64	18.20	437,263.89
1981	1,387,445.39	55.00	25,226.23	18.80	474,377.72
1982	1,312,339.97	55.00	23,860.68	19.43	463,511.86
1983	1,473,726.03	55.00	26,794.96	20.06	537,477.95
1984	1,733,615.62	55.00	31,520.22	20.70	652,595.68
1985	1,776,971.86	55.00	32,308.51	21.36	690,076.20
1986	2,123,689.53	55.00	38,612.46	22.03	850,552.40
1987	2,125,717.54	55.00	38,649.33	22.71	877,638.51
1988	2,296,699.47	55.00	41,758.09	23.40	977,058.25
1989	2,519,945.86	55.00	45,817.10	24.10	1,104,129.99
1990	2,938,897.63	55.00	53,434.39	24.81	1,325,557.07
1991	2,506,323.39	55.00	45,569.42	25.53	1,163,314.80
1992	2,380,372.78	55.00	43,279.42	26.26	1,136,476.53
1993	2,678,931.16	55.00	48,707.74	27.00	1,315,056.69
1994	2,838,138.53	55.00	51,602.41	27.75	1,431,854.87
1995	3,228,135.42	55.00	58,693.25	28.51	1,673,085.06
1996	3,364,658.61	55.00	61,175.49	29.27	1,790,643.00
1997	5,307,706.94	55.00	96,503.57	30.05	2,899,574.84
1998	1,611,414.25	55.00	29,298.38	30.83	903,277.61
1999	4,526,217.00	55.00	82,294.69	31.62	2,602,356.56
2000	5,005,926.92	55.00	91,016.67	32.42	2,950,989.10
2001	37.43	55.00	0.68	33.23	22.61
2002	2,016,566.67	55.00	36,664.77	34.05	1,248,259.12
2003	2,358,125.75	55.00	42,874.93	34.87	1,495,003.00
2004	2,093,881.47	55.00	38,070.49	35.70	1,359,115.98
2005	4,274,146.09	55.00	77,711.59	36.54	2,839,439.14

FE 2025 Study - West Penn Power
Electric Division
369.00 Overhead Services

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *55* ***Survivor Curve:*** *R2.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2006	537,536.43	55.00	9,773.37	37.38	365,361.02
2007	780,164.28	55.00	14,184.78	38.23	542,344.19
2008	5,171,000.93	55.00	94,018.01	39.09	3,675,482.48
2010	1,647,638.21	55.00	29,957.00	40.83	1,223,163.97
2011	2,326,172.07	55.00	42,293.95	41.71	1,764,014.35
2012	2,962,675.94	55.00	53,866.73	42.59	2,294,236.24
2013	3,178,852.97	55.00	57,797.21	43.48	2,513,064.10
2014	4,020,953.16	55.00	73,108.09	44.38	3,244,235.87
2015	4,126,624.14	55.00	75,029.38	45.28	3,397,050.24
2016	4,587,226.95	55.00	83,403.96	46.18	3,851,736.20
2017	3,647,076.74	55.00	66,310.35	47.09	3,122,684.70
2018	4,325,612.18	55.00	78,647.33	48.01	3,775,562.18
2019	5,078,304.49	55.00	92,332.62	48.93	4,517,465.22
2020	4,033,392.02	55.00	73,334.25	49.85	3,655,712.14
2021	4,257,475.97	55.00	77,408.50	50.78	3,930,653.78
2022	4,308,858.70	55.00	78,342.73	51.71	4,051,104.71
2023	4,052,405.80	55.00	73,679.95	52.65	3,878,886.06
2024	5,301,794.14	55.00	96,396.06	53.58	5,165,343.55
2025	5,007,587.31	55.00	91,046.86	54.53	4,964,554.82
Total	147,727,859.09	55.00	2,685,955.58	35.95	96,550,972.58

Composite Average Remaining Life ... 35.95 Years

FE 2025 Study - West Penn Power
Electric Division
370.30 Meters - Smart Grid

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *15* ***Survivor Curve:*** *S2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2013	116,201.84	15.00	7,746.79	4.92	38,076.17
2014	359,980.10	15.00	23,998.67	5.43	130,285.11
2015	3,143,327.85	15.00	209,555.20	5.99	1,255,811.66
2016	24,463,138.10	15.00	1,630,875.94	6.61	10,781,117.95
2017	23,646,700.51	15.00	1,576,446.76	7.29	11,485,663.46
2018	70,586,348.89	15.00	4,705,756.77	8.02	37,751,626.22
2019	42,147,298.05	15.00	2,809,819.98	8.82	24,781,590.10
2020	11,089,690.81	15.00	739,312.75	9.67	7,152,297.90
2021	9,031,079.49	15.00	602,071.99	10.58	6,370,747.50
2022	5,090,670.17	15.00	339,378.02	11.53	3,912,997.25
2023	5,777,825.68	15.00	385,188.39	12.51	4,817,634.48
2024	9,535,101.88	15.00	635,673.48	13.50	8,582,093.14
2025	9,348,897.44	15.00	623,259.85	14.50	9,037,270.98
Total	214,336,260.81	15.00	14,289,084.60	8.82	126,097,211.91

Composite Average Remaining Life ... 8.82 Years

FE 2025 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 32 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1960	5,548.96	0.00	0.00	0.00	0.00
1961	69,689.85	0.00	0.00	0.00	0.00
1962	31,849.08	32.00	995.26	0.50	497.63
1963	16,197.65	32.00	506.17	0.69	351.68
1964	21,181.21	32.00	661.90	0.99	656.66
1965	16,335.55	32.00	510.47	1.31	670.16
1966	4,620.55	32.00	144.39	1.64	236.99
1967	206.35	32.00	6.45	1.95	12.58
1970	17,472.59	32.00	546.01	2.68	1,462.25
1971	5,077.01	32.00	158.65	2.90	460.47
1972	3,747.10	32.00	117.09	3.13	366.72
1973	39,718.16	32.00	1,241.16	3.37	4,182.78
1974	41,208.27	32.00	1,287.73	3.62	4,658.98
1975	55,543.03	32.00	1,735.68	3.88	6,726.49
1976	44,808.08	32.00	1,400.22	4.14	5,799.02
1977	16,202.99	32.00	506.33	4.42	2,235.62
1978	37,386.15	32.00	1,168.29	4.69	5,482.87
1979	56,606.28	32.00	1,768.91	4.98	8,810.50
1980	56,079.43	32.00	1,752.44	5.28	9,244.25
1981	47,762.90	32.00	1,492.56	5.58	8,322.98
1982	34,005.31	32.00	1,062.64	5.89	6,253.85
1983	40,790.35	32.00	1,274.67	6.20	7,906.18
1984	42,253.53	32.00	1,320.39	6.53	8,621.34
1985	36,090.40	32.00	1,127.80	6.87	7,744.37
1986	3,875.57	32.00	121.11	7.22	873.82
1987	2,863.84	32.00	89.49	7.58	678.10
1988	1,302.81	32.00	40.71	7.95	323.77

FE 2025 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 32 **Survivor Curve:** R1.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1989	1,289.81	32.00	40.31	8.34	336.26
1990	94.70	32.00	2.96	8.75	25.89
1991	618.01	32.00	19.31	9.17	177.06
1992	3,006.29	32.00	93.94	9.60	902.32
1993	8,426.48	32.00	263.32	10.06	2,648.37
1994	7,766.68	32.00	242.70	10.53	2,555.03
1995	5,013.26	32.00	156.66	11.01	1,725.32
1996	119,841.18	32.00	3,744.95	11.52	43,123.87
1997	411,534.78	32.00	12,860.17	12.03	154,753.22
1998	1,218,195.16	32.00	38,067.74	12.57	478,431.76
1999	17,569.86	32.00	549.05	13.12	7,202.43
2000	1,118,951.35	32.00	34,966.44	13.68	478,472.48
2001	224,728.37	32.00	7,022.60	14.26	100,174.61
2002	51,953.69	32.00	1,623.52	14.86	24,127.57
2003	60,192.77	32.00	1,880.98	15.47	29,101.49
2004	11,843.77	32.00	370.11	16.10	5,957.09
2005	45,933.53	32.00	1,435.39	16.73	24,018.32
2006	11,555.57	32.00	361.10	17.38	6,277.20
2007	32,826.57	32.00	1,025.81	18.05	18,512.02
2008	567,105.08	32.00	17,721.63	18.72	331,769.47
2009	2,061.04	32.00	64.41	19.41	1,249.96
2011	2,587,067.61	32.00	80,844.04	20.81	1,682,622.78
2012	302,871.14	32.00	9,464.51	21.53	203,776.92
2013	276,027.39	32.00	8,625.66	22.26	191,984.32
2014	484,849.97	32.00	15,151.22	22.99	348,369.11
2015	309,543.48	32.00	9,673.02	23.74	229,604.22
2016	163,946.46	32.00	5,123.21	24.49	125,458.39

FE 2025 Study - West Penn Power
Electric Division
371.00 Installations on Customers' Premises
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *32* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2017	194,569.20	32.00	6,080.15	25.25	153,508.57
2018	170,063.55	32.00	5,314.37	26.01	138,252.90
2019	209,419.62	32.00	6,544.22	26.79	175,314.53
2020	148,353.69	32.00	4,635.95	27.57	127,817.34
2021	141,001.08	32.00	4,406.18	28.36	124,959.13
2022	180,897.53	32.00	5,652.92	29.16	164,818.07
2023	149,783.82	32.00	4,680.64	29.96	140,231.27
Total	9,987,325.49	30.95	309,745.74	18.11	5,610,839.34

Composite Average Remaining Life ... 18.11 Years

FE 2025 Study - West Penn Power
Electric Division
372.00 Leased Property

Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *30* ***Survivor Curve:*** *R1.5*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1996	296,546.83	30.00	9,884.66	9.88	97,708.46
2018	71.80	30.00	2.39	24.03	57.51
Total	296,618.63	30.00	9,887.05	9.89	97,765.97

Composite Average Remaining Life ... 9.89 Years

FE 2025 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1924	42.08	0.00	0.00	0.00	0.00
1925	64.33	0.00	0.00	0.00	0.00
1926	16.15	0.00	0.00	0.00	0.00
1927	33.79	25.00	1.35	0.50	0.68
1928	862.46	25.00	34.50	0.83	28.75
1929	81.94	25.00	3.28	1.13	3.71
1930	3,556.71	25.00	142.27	1.41	200.85
1931	74.48	25.00	2.98	1.62	4.83
1933	1,146.15	25.00	45.85	1.96	90.00
1935	146.14	25.00	5.85	2.26	13.23
1936	261.10	25.00	10.44	2.40	25.07
1937	7.86	25.00	0.31	2.54	0.80
1938	332.68	25.00	13.31	2.67	35.49
1939	186.52	25.00	7.46	2.80	20.87
1940	99.58	25.00	3.98	2.93	11.66
1941	158.27	25.00	6.33	3.06	19.35
1942	830.50	25.00	33.22	3.19	105.85
1943	118.47	25.00	4.74	3.32	15.72
1944	354.48	25.00	14.18	3.45	48.89
1945	1,037.28	25.00	41.49	3.58	148.52
1946	6.12	25.00	0.24	3.71	0.91
1947	16.24	25.00	0.65	3.85	2.50
1948	122.90	25.00	4.92	3.98	19.58
1949	2,044.23	25.00	81.77	4.12	336.85
1950	1,105.39	25.00	44.22	4.26	188.26
1951	3,345.52	25.00	133.82	4.40	588.47
1952	4,021.41	25.00	160.86	4.54	730.07

FE 2025 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
1953	504.01	25.00	20.16	4.68	94.38
1954	2,912.57	25.00	116.50	4.83	562.17
1955	842.12	25.00	33.69	4.97	167.46
1956	311.07	25.00	12.44	5.12	63.69
1957	15.46	25.00	0.62	5.27	3.26
1958	3,119.84	25.00	124.79	5.42	676.28
1960	4,205.59	25.00	168.23	5.73	963.38
1961	2,671.77	25.00	106.87	5.88	628.76
1962	2,924.91	25.00	117.00	6.04	706.89
1963	7,531.99	25.00	301.28	6.20	1,868.74
1964	3,587.30	25.00	143.49	6.37	913.39
1965	11,456.16	25.00	458.25	6.53	2,992.47
1966	65,796.49	25.00	2,631.89	6.70	17,626.38
1967	86,024.58	25.00	3,441.02	6.87	23,627.89
1968	143,007.01	25.00	5,720.34	7.04	40,260.59
1969	125,857.85	25.00	5,034.37	7.21	36,308.49
1970	177,315.90	25.00	7,092.71	7.39	52,404.67
1971	92,314.96	25.00	3,692.64	7.57	27,943.77
1972	161,594.14	25.00	6,463.83	7.75	50,087.53
1973	168,408.04	25.00	6,736.39	7.93	53,439.71
1974	123,474.43	25.00	4,939.03	8.12	40,103.84
1975	206,448.76	25.00	8,258.04	8.31	68,618.87
1976	137,188.46	25.00	5,487.60	8.50	46,654.27
1977	134,614.12	25.00	5,384.62	8.70	46,830.66
1978	116,193.24	25.00	4,647.78	8.90	41,344.17
1979	160,338.55	25.00	6,413.61	9.10	58,344.05
1980	203,692.28	25.00	8,147.78	9.30	75,786.83

FE 2025 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 **Survivor Curve:** L0

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1981	141,220.63	25.00	5,648.89	9.51	53,717.56
1982	96,717.34	25.00	3,868.73	9.72	37,606.58
1983	144,673.79	25.00	5,787.01	9.94	57,495.75
1984	124,350.21	25.00	4,974.06	10.15	50,504.20
1985	143,293.13	25.00	5,731.79	10.38	59,469.28
1986	146,162.35	25.00	5,846.56	10.60	61,978.91
1987	135,913.61	25.00	5,436.60	10.83	58,880.24
1988	247,245.64	25.00	9,889.93	11.06	109,419.16
1989	305,673.22	25.00	12,227.06	11.30	138,179.28
1990	385,953.51	25.00	15,438.30	11.54	178,199.42
1991	159,449.76	25.00	6,378.06	11.79	75,188.00
1992	194,704.60	25.00	7,788.27	12.04	93,761.39
1993	201,461.40	25.00	8,058.54	12.29	99,068.35
1994	234,052.87	25.00	9,362.21	12.55	117,523.98
1995	325,129.59	25.00	13,005.32	12.82	166,692.05
1996	374,316.92	25.00	14,972.84	13.09	195,939.48
1997	492,287.63	25.00	19,691.71	13.36	263,090.89
1998	646,811.61	25.00	25,872.74	13.64	352,899.75
1999	10,067.70	25.00	402.71	13.92	5,607.57
2000	1,070,039.75	25.00	42,802.04	14.21	608,415.55
2001	71,198.69	25.00	2,847.98	14.51	41,325.29
2002	2,542.76	25.00	101.71	14.81	1,506.54
2003	1,081.58	25.00	43.26	15.12	654.12
2004	4,999.27	25.00	199.97	15.43	3,086.17
2005	77,754.68	25.00	3,110.22	15.75	48,994.53
2006	25,821.35	25.00	1,032.86	16.08	16,607.42
2007	155,053.02	25.00	6,202.19	16.41	101,789.02

FE 2025 Study - West Penn Power
Electric Division
373.10 Street Lighting and Signal Systems
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *25* ***Survivor Curve:*** *L0*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2008	981,863.20	25.00	39,274.94	16.75	657,909.51
2009	13,732.10	25.00	549.29	17.10	9,391.70
2010	677,360.69	25.00	27,094.71	17.45	472,844.67
2011	3,126,995.85	25.00	125,081.16	17.81	2,228,006.63
2012	507,710.94	25.00	20,308.65	18.18	369,230.10
2013	700,264.31	25.00	28,010.87	18.56	519,798.60
2014	659,915.94	25.00	26,396.92	18.94	499,991.00
2015	989,225.31	25.00	39,569.43	19.34	765,100.04
2016	1,612,826.05	25.00	64,513.73	19.74	1,273,673.61
2017	896,442.04	25.00	35,858.06	20.16	723,074.82
2018	825,013.99	25.00	33,000.91	20.60	679,983.38
2019	998,778.11	25.00	39,951.55	21.07	841,612.42
2020	979,178.07	25.00	39,167.54	21.55	844,094.90
2021	782,971.27	25.00	31,319.18	22.06	691,040.34
2022	934,809.99	25.00	37,392.80	22.61	845,535.54
2023	925,258.49	25.00	37,010.73	23.20	858,744.35
2024	1,613,674.01	25.00	64,547.64	23.85	1,539,381.91
2025	1,876,219.68	25.00	75,049.58	24.58	1,844,575.82
Total	27,182,641.03	24.24	1,087,312.25	17.80	19,353,253.26

Composite Average Remaining Life ... 17.80 Years

FE 2025 Study - West Penn Power
Electric Division
373.30 Street Lighting and Signal Systems - LED
Original Cost Of Utility Plant In Service
And Development Of Composite Remaining Life as of December 31, 2025
Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: *20* ***Survivor Curve:*** *R2*

Year	*Original Cost*	*Avg. Service Life*	*Avg. Annual Accrual*	*Avg. Remaining Life*	*Future Annual Accruals*
(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
2015	96,649.78	20.00	4,832.39	11.32	54,723.27
2016	4,482,982.28	20.00	224,144.67	12.06	2,704,255.00
2017	6,347,045.98	20.00	317,346.00	12.82	4,069,913.24
2018	3,058,574.57	20.00	152,925.70	13.61	2,080,698.37
2019	1,116,116.32	20.00	55,804.71	14.40	803,856.49
2020	1,120,580.88	20.00	56,027.93	15.22	852,871.60
2021	1,245,038.31	20.00	62,250.68	16.06	999,547.17
2022	1,760,298.65	20.00	88,013.19	16.91	1,488,127.03
2023	1,859,123.67	20.00	92,954.34	17.77	1,652,139.76
2024	2,419,681.24	20.00	120,981.66	18.65	2,256,862.73
2025	2,814,329.51	20.00	140,713.68	19.55	2,750,713.22
Total	26,320,421.19	20.00	1,315,994.96	14.98	19,713,707.87

Composite Average Remaining Life ... 14.98 Years

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set VII, No. 9

"Please provide a schedule showing the currently-approved and proposed survivor curves, net salvage rates, and depreciation rates, and depreciation accrual for each account."

RESPONSE:

See FE PA Response to OCA Interrogatory Set VII, No. 9, Attachments A through D for comparisons of the currently-approved survivor curves, annual depreciation rates, and annual accruals to the proposed survivor curves, annual depreciation rates, and annual accruals for each entity. The proposed annual depreciation rates and annual accruals for each entity are as of December 31, 2025, fully projected future test year. This response does not address net salvage rates because there are no net salvage rates in Pennsylvania.

METROPOLITAN EDISON RATE DISTRICT

COMPARISON OF CURRENTLY APPROVED AND PROPOSED SURVIVOR CURVES, ANNUAL DEPRECIATION RATES AND ANNUAL ACCRUALS BY ACCOUNT AS OF DECEMBER 31, 2025

	DEPRECIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2025	CURRENTLY APPROVED SURVIVOR CURVE		CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL AMOUNT	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL RATE	PROPOSED SURVIVOR CURVE		PROPOSED CALCULATED ANNUAL ACCRUAL AMOUNT	PROPOSED CALCULATED ANNUAL ACCRUAL RATE	
	(1)	(2)	(3)		(4)=(2)*(5)	(5)	(6)		(7)	(8)	
	ELECTRIC PLANT										
	INTANGIBLE PLANT										
303.00	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - OTHER	70,656,331.12	7-SQ		3,775,157	*	7-SQ		4,795,431	*	
303.10	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - CLOUD	438,640.79	N/A		0	N/A	5-SQ		87,630	*	
303.30	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - PROJECT ENTERPRISE	621,985.00	7-SQ		0	*	7-SQ		0	*	
303.60	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - PROJECT EVOLUTION	8,047,879.06	7-SQ		0	*	7-SQ		0	*	
303.90	MISCELLANEOUS INTANGIBLE PLANT - SMART METER SOFTWARE	23,896,722.35	7-SQ		3,628,068	*	7-SQ		116,518	*	
	TOTAL INTANGIBLE PLANT	**103,661,558.32**			**7,403,225**				**4,999,579**		
	DISTRIBUTION PLANT										
360.20	LAND RIGHTS	28,932,718.77	75-R4		298,007	1.03	80-R4		278,525	0.96	
361.00	STRUCTURES AND IMPROVEMENTS	17,763,919.28	65-R3		232,707	1.31	70-R3		240,113	1.35	
361.10	STRUCTURES AND IMPROVEMENTS - SUBTRANSMISSION	339,222.74	65-R4		4,919	1.45	70-R3		5,247	1.55	
361.20	STRUCTURES AND IMPROVEMENTS - SUBTRANSMISSION (ROADS AND TRAILS)	11,907.52	75-R3		81	0.68	75-R3		87	0.73	
362.00	STATION EQUIPMENT	337,332,580.62	60-R2		5,026,255	1.49	60-R2		6,437,605	1.91	
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,919,659.66	59-R1.5		183,563	1.54	60-R2		253,195	2.12	
364.00	POLES, TOWERS AND FIXTURES	600,994,841.46	65-R1.5		8,353,828	1.39	65-R1.5		11,648,309	1.94	
364.10	POLES, TOWERS AND FIXTURES - SUBTRANSMISSION (TOWERS AND FIXTURES)	36,126.01	80-R4		285	0.79	80-R4		203	0.56	
364.11	POLES, TOWERS AND FIXTURES - SUBTRANSMISSION (POLES AND FIXTURES)	3,234,421.64	65-R2		50,134	1.55	65-R1.5		59,010	1.82	
365.00	OVERHEAD CONDUCTORS AND DEVICES	761,125,689.07	52-R0.5		14,841,951	1.95	60-O1		22,314,293	2.93	
365.01	OVERHEAD CONDUCTORS AND DEVICES - SUBTRANSMISSION	1,345,784.75	65-R2.5		22,071	1.64	60-O1		24,971	1.86	
365.10	OVERHEAD CONDUCTORS AND DEVICES - CLEARING COSTS AND RIGHTS OF WAY	229,365,878.41	70-R4		3,188,186	1.39	70-R4		3,437,415	1.50	
365.11	OVERHEAD CONDUCTORS AND DEVICES - CLEARING COSTS AND RIGHTS OF WAY - SUBTRANSMISSION	429,030.41	75-R3		1,073	0.25	70-R4		1,119	0.26	
366.00	UNDERGROUND CONDUIT	35,459,379.59	65-R1.5		482,248	1.36	65-R1.5		566,767	1.60	
367.00	UNDERGROUND CONDUCTORS AND DEVICES	346,055,799.46	48-R2.5		6,471,243	1.87	50-R2		7,700,028	2.23	
367.10	UNDERGROUND CONDUCTORS AND DEVICES - SUBTRANSMISSION	1,536,544.01	40-R2		38,875	2.53	50-R2		35,117	2.29	
368.00	LINE TRANSFORMERS	521,455,413.01	40-R2		12,567,075	2.41	43-R1.5		13,451,135	2.58	
369.00	OVERHEAD SERVICES	97,428,588.83	44-R1		2,075,229	2.13	44-R1		2,665,331	2.74	
369.10	UNDERGROUND SERVICES	104,045,959.48	57-R3		1,373,407	1.32	60-R3		1,356,246	1.30	
370.10	METERS - SMART GRID	150,001,444.20	15-S2		10,455,101	6.97	15-S2		11,937,520	7.96	
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES - DUSK TO DAWN LIGHTS	4,173,138.29	36-R0.5		70,526	1.69	37-R0.5		75,965	1.82	
371.21	INSTALLATIONS ON CUSTOMERS' PREMISES - METER SOCKET DEVICES	412,207.74	25-R2.5		7,750	1.88	25-R2.5		3,923	0.95	
371.23	INSTALLATIONS ON CUSTOMERS' PREMISES - SURGE SUPPRESSION	276,707.92	20-S2.5		0	-	20-S2.5		0	-	***
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	16,749,800.95	28-R1		688,417	4.11	28-R1		759,379	4.53	
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	4,081,238.79	25-S0		165,290	4.05	20-S0		279,892	6.86	
	TOTAL DISTRIBUTION PLANT	**3,274,508,002.61**			**66,598,221**	**2.03**			**83,531,395**	**2.55**	
	GENERAL PLANT										
389.20	LAND RIGHTS	18,077.52	70-R2		67	0.37	70-R2		67	0.37	
390.10	STRUCTURES AND IMPROVEMENTS										
	MISCELLANEOUS IMPROVEMENTS - MINOR	46,759,876.65	40-R1.5		1,061,449	2.27	40-R1.5		1,528,594	3.27	
	CORPORATE HEADQUARTERS - READING	64,119,550.91	60-R2	**	1,352,923	2.11	65-R2	**	1,945,528	3.03	
	LEBANON SERVICE CENTER	7,363,967.28	60-R2	**	312,969	4.25	65-R2	**	208,505	2.83	
	EASTON SERVICE CENTER	7,191,588.92	60-R2	**	117,942	1.64	65-R2	**	359,384	5.00	
	YORK SERVICE CENTER	12,697,225.68	60-R2	**	661,525	5.21	65-R2	**	647,848	5.10	
	TOTAL ACCOUNT 390.10	138,132,209.44			3,506,808	2.57			4,689,859	3.40	
390.20	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING										
	MISCELLANEOUS IMPROVEMENTS - MINOR	4,081,929.92	30-R1.5		60,821	1.49	40-R1.5		66,826	1.64	
	CORPORATE HEADQUARTERS - READING	5,067,693.04	65-R4	**	155,071	3.06	65-R4	**	113,128	2.23	
	LEBANON SERVICE CENTER	997,791.85	65-R4	**	13,071	1.31	65-R4	**	13,142	1.32	
	EASTON SERVICE CENTER	1,331,356.24	65-R4	**	17,174	1.29	65-R4	**	28,562	2.15	
	YORK SERVICE CENTER	1,783,425.82	65-R4	**	55,643	3.12	65-R4	**	30,090	1.69	
	TOTAL ACCOUNT 390.20	13,262,196.87			301,780	2.27			251,748	1.90	

METROPOLITAN EDISON RATE DISTRICT

COMPARISON OF CURRENTLY APPROVED AND PROPOSED SURVIVOR CURVES, ANNUAL DEPRECIATION RATES AND ANNUAL ACCRUALS BY ACCOUNT AS OF DECEMBER 31, 2025

	DEPRECIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2025	CURRENTLY APPROVED SURVIVOR CURVE	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL AMOUNT	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL RATE	PROPOSED SURVIVOR CURVE	PROPOSED CALCULATED ANNUAL ACCRUAL AMOUNT	PROPOSED CALCULATED ANNUAL ACCRUAL RATE	
	(1)	(2)	(3)	(4)=(2)*(5)	(5)	(6)	(7)	(8)	
391.00	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	1,179,090.42	20-SQ	32,661	2.77	20-SQ	56,513	4.79	
391.30	OFFICE FURNITURE AND EQUIPMENT - PERSONAL COMPUTERS	1,457,337.11	5-SQ	427,291	29.32	5-SQ	265,632	18.23	
391.50	OFFICE FURNITURE AND EQUIPMENT - DATA PROCESSING SMART METERS	4,541,673.26	5-SQ	940,126	20.70	5-SQ	916,772	20.19	
	TOTAL ACCOUNT 391.00	7,178,100.79		1,400,078	19.50		1,238,917	17.26	
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	5,349,896.63	12-R2	463,836	8.67	12-R4	438,880	8.20	
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	661,803.67	32-S2	11,118	1.68	34-S1.5	7,002	1.06	
392.50	TRANSPORTATION EQUIPMENT - VAN TRAILERS	87,236.99	25-S2.5	602	0.69	25-S2.5	283	0.32	
	TOTAL ACCOUNT 392.00	6,098,937.29		475,556	7.80		446,165	7.32	
393.00	STORES EQUIPMENT	38,111.78	25-SQ	15	0.04	25-SQ	908	2.38	
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	13,705,566.85	25-SQ	555,075	4.05	25-SQ	540,017	3.94	
395.00	LABORATORY EQUIPMENT	85,698.38	20-SQ	0	-	20-SQ	0	-	****
396.00	POWER OPERATED EQUIPMENT	1,248,543.77	30-R0.5	12,735	1.02	33-R0.5	29,569	2.37	
397.00	COMMUNICATION EQUIPMENT	29,265,609.64	25-SQ	1,609,609	5.50	25-SQ	1,299,962	4.44	
398.00	MISCELLANEOUS EQUIPMENT	66,807.12	20-SQ	107	0.16	20-SQ	1,404	2.10	
	TOTAL GENERAL PLANT	**209,099,859.45**		**7,861,830**	**3.76**		**8,498,616**	**4.06**	
	TOTAL DEPRECIABLE PLANT	**3,587,269,420.38**		**81,863,276**	**2.28**		**97,029,590**	**2.70**	
	NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED								
301.00	ORGANIZATION	124,375.69							
302.00	FRANSCHISES AND CONSENTS	150,604.01							
350.10	LAND	3,554,379.57							
350.20	LAND RIGHTS	26,938,000.97							
360.10	LAND	4,014,087.62							
374.00	ASSET RETIREMENT COSTS DISTRIBUTION	37,210.00							
389.10	LAND	2,936,778.20							
390.30	BUILDING LEASEHOLDS	315,880.63							
399.10	ASSET RETIREMENT COSTS GENERAL BUILDINGS	105,951.28							
	TOTAL NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED	**38,177,267.97**							
	TOTAL ELECTRIC PLANT	**3,625,446,688.35**							

* ACCRUALS CALCULATED UTILIZING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 3.
** LIFE SPAN PROCEDURE WAS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
*** ASSETS ADDED AS OF JANUARY 1, 2026 TO THIS ACCOUNT SHOULD UTILIZE AN ANNUAL ACCRUAL RATE OF 5.52% CONSISTENT WITH A 20-S2.5 SURVIVOR CURVE.
**** ASSETS ADDED AS OF JANUARY 1, 2026 TO THIS ACCOUNT SHOULD UTILIZE AN ANNUAL ACCRUAL RATE OF 5.00% CONSISTENT WITH A 20-YEAR AMORTIZATION PERIOD.

NOTE: ASSETS ADDED IN ACCOUNT 363.00 (ELECTRIC BATTERY STORAGE) SHOULD UTILIZE AN ANNUAL ACCRUAL RATE OF 6.67% BASED ON A 15-L3 SURVIVOR CURVE.

PENNSYLVANIA ELECTRIC RATE DISTRICT

COMPARISON OF CURRENTLY APPROVED AND PROPOSED SURVIVOR CURVES, ANNUAL DEPRECIATION RATES AND ANNUAL ACCRUALS BY ACCOUNT AS OF DECEMBER 31, 2025

			CURRENTLY APPROVED			PROPOSED			
		ORIGINAL COST AS OF	SURVIVOR	CALCULATED ANNUAL ACCRUAL		SURVIVOR		CALCULATED ANNUAL ACCRUAL	
	ACCOUNT	DECEMBER 31, 2025	CURVE	AMOUNT	RATE	CURVE		AMOUNT	RATE
	(1)	(2)	(3)	(4)=(2)*(5)	(5)	(6)		(7)	(8)=(7)/(4)
	ELECTRIC PLANT								
	INTANGIBLE PLANT								
303.00	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - OTHER	77,582,653.96	7-SQ	3,564,651	*	7-SQ		6,808,908	*
303.30	MISCELLANEOUS INTANGIBLE PLANT - SOFTWARE - PROJECT EVOLUTION	9,079,603.90	7-SQ	-	*	7-SQ		-	*
303.60	MISCELLANEOUS INTANGIBLE PLANT - SMART METER SOFTWARE	27,390,874.30	7-SQ	3,540,205	*	7-SQ		156,640	*
303.70	MISCELLANEOUS INTANGIBLE PLANT - CLOUD SOFTWARE	442,650.36	n/a	n/a	n/a	5-SQ		89,670	*
	TOTAL INTANGIBLE PLANT	**114,495,782.52**		**7,104,856**				**7,055,218**	
	DISTRIBUTION PLANT								
360.20	LAND RIGHTS	15,602,749.38	75-R3	121,701	0.78	75-R3		129,438	0.83
361.00	STRUCTURES AND IMPROVEMENTS	18,498,132.47	65-R2.5	172,033	0.93	65-R2.5		225,132	1.22
361.10	STRUCTURES AND IMPROVEMENTS - SUBTRANSMISSION	427,196.22	70-R3	5,596	1.31	65-R2.5		4,512	1.06
362.00	STATION EQUIPMENT	415,488,813.53	62-R1.5	5,442,903	1.31	62-R1.5		8,094,877	1.95
362.10	STATION EQUIPMENT - SUBTRANSMISSION	11,560,419.97	58-R2	211,556	1.83	62-R1.5		281,777	2.44
364.00	POLES, TOWERS AND FIXTURES	744,328,808.00	65-R1.5	9,750,707	1.31	65-R3		12,514,942	1.68
364.20	POLES AND FIXTURES - SUBTRANSMISSION	535,896.08	65-R1.5	8,682	1.62	65-R3		12,685	2.37
365.00	OVERHEAD CONDUCTORS AND DEVICES	1,000,095,152.59	60-R0.5	15,801,503	1.58	60-R0.5		24,460,091	2.45
365.10	OVERHEAD CONDUCTORS AND DEVICES - CLEARING COSTS AND RIGHTS OF WAY	283,177,859.90	75-R4	3,624,677	1.28	75-R4		3,919,138	1.38
365.20	OVERHEAD CONDUCTORS AND DEVICES - SUBTRANSMISSION	750,193.81	65-R2.5	10,278	1.37	60-R0.5		18,111	2.41
365.30	OVERHEAD CONDUCTORS AND DEVICES - CLEARING COSTS AND RIGHTS OF WAY - SUBTRANSMISSION	37,157.30	75-R4	398	1.07	75-R4		379	1.02
366.00	UNDERGROUND CONDUIT	46,814,590.53	65-R2	603,908	1.29	65-R2		732,710	1.57
367.00	UNDERGROUND CONDUCTORS AND DEVICES	259,422,027.45	44-R2.5	5,188,441	2.00	44-R2.5		6,521,669	2.51
367.10	UNDERGROUND CONDUCTORS AND DEVICES - SUBTRANSMISSION	1,286,184.07	40-S2	31,897	2.48	44-R2.5		34,840	2.71
368.00	LINE TRANSFORMERS	499,072,584.36	44-R1	9,232,843	1.85	44-R1		13,372,805	2.68
369.00	OVERHEAD SERVICES	96,010,506.14	60-R1	1,324,945	1.38	60-R1		2,002,132	2.09
369.10	UNDERGROUND SERVICES	48,077,318.11	60-R1	408,657	0.85	60-R1		475,654	0.99
370.10	METERS - SMART GRID	151,072,816.93	15-S2	10,726,170	7.10	15-S2		12,078,126	7.99
371.00	INSTALLATIONS ON CUSTOMER PREMISES - DUSK TO DAWN LIGHTS	28,306,985.17	30-R0.5	390,636	1.38	30-R0.5		392,047	1.38
371.21	INSTALLATIONS ON CUSTOMER PREMISES - METER SOCKET DEVICES	223,738.49	25-R2.5	4,833	2.16	25-R2.5		2,449	1.09
371.23	INSTALLATIONS ON CUSTOMER PREMISES - SURGE SUPPRESSION	147,696.50	20-S3	-	-	20-S3		-	-
372.00	LEASED PROPERTY ON CUSTOMER PREMISES	196,313.14	40-R3	157	0.08	40-R3		136	0.07
373.00	STREET LIGHTING AND SIGNAL SYSTEMS	40,123,985.77	21-R1	2,467,625	6.15	20-R1		3,057,242	7.62
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	11,697,257.36	10-S1	1,352,203	11.56	20-R1		733,022	6.27
	TOTAL DISTRIBUTION PLANT	**3,672,954,383.27**		**66,882,349**	**1.82**			**89,063,914**	**2.42**
	GENERAL PLANT								
389.20	LAND RIGHTS	20,956.59	70-R3	231	1.10	70-R3		-	-
390.10	STRUCTURES AND IMPROVEMENTS								
	MISCELLANEOUS IMPROVEMENTS - MINOR	50,750,355.99	45-S0	1,040,382	2.05	45-S0		1,454,414	2.87
	RICHLAND OPERATING CENTER	9,970,307.08	80-S0	284,154	2.85	80-S0	**	340,258	3.41
	ERIE OPERATING CENTER	18,791,499.21	80-S0	652,065	3.47	80-S0	**	786,836	4.19
	ALTOONA OPERATING CENTER	12,755,018.10	80-S0	497,446	3.90	80-S0	**	473,029	3.71
	TOTAL ACCOUNT 390.1	92,267,180.38		2,474,047	2.68			3,054,537	3.31
390.20	MISCELLANEOUS IMPROVEMENTS	7,098,844.05	40-R0.5	80,217	1.13	40-R0.5		86,964	1.23
391.00	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	344,061.30	20-SQ	4,198	1.22	20-SQ		7,103	2.06
391.20	OFFICE FURNITURE AND EQUIPMENT - OFFICE MACHINES	1,944,805.73	10-SQ	-	-	10-SQ		204,716	10.53
391.25	OFFICE FURNITURE AND EQUIPMENT - DATA PROCESSING SMART METERS	4,129,309.14	5-SQ	344,384	8.34	5-SQ		759,005	18.38
391.30	OFFICE FURNITURE AND EQUIPMENT - PERSONAL COMPUTERS	1,878,067.97	5-SQ	46,388	2.47	5-SQ		413,505	22.02
392.30	TRANSPORTATION EQUIPMENT - HEAVY TRUCKS	623,577.55	13-L3	12,347	1.98	13-L3		20,070	3.22
392.40	TRANSPORTATION EQUIPMENT - POLE TRAILERS	2,817,620.78	30-L2	49,590	1.76	30-L2		89,751	3.19
392.50	TRANSPORTATION EQUIPMENT - OTHER	7,799,345.59	10-L3	761,996	9.77	10-L3		632,387	8.11
393.00	STORES EQUIPMENT	25,024.99	25-SQ	3	0.01	25-SQ		-	- ***
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	19,302,472.98	25-SQ	901,425	4.67	25-SQ		867,345	4.49
395.00	LABORATORY EQUIPMENT	111,814.59	20-SQ	-	-	20-SQ		-	- ***

396.00	POWER OPERATED EQUIPMENT	5,158,780.44	35-S0	25,794	0.50	35-S0	27,026	0.52
397.00	COMMUNICATION EQUIPMENT	44,874,261.16	15-SQ	3,073,887	6.85	15-SQ	4,215,742	9.39
398.00	MISCELLANEOUS EQUIPMENT	71,227.63	20-SQ	128	0.18	20-SQ	1,585	2.23
	TOTAL GENERAL PLANT	**188,467,350.87**		**7,774,635**	**4.13**		**10,379,736**	**5.51**
	TOTAL DEPRECIABLE PLANT	**3,975,917,516.66**		**81,761,840**	**2.06**		**106,498,868**	**2.68**
	NONDEPRECIABLE PLANT							
301.00	ORGANIZATION	34,665.54						
302.00	FRANCHISES AND CONSENTS	306,716.73						
350.10	LAND	2,127,870.62						
350.20	LAND RIGHTS	13,499,322.87						
360.10	LAND	1,697,578.36						
374.00	ASSET RETIREMENT COSTS DISTRIBUTION	80,653.00						
389.10	LAND	1,092,749.14						
390.30	BUILDING LEASEHOLDS	560,865.26						
399.10	ASSET RETIREMENT COSTS GENERAL PLANT	321,852.44						
	TOTAL NONDEPRECIABLE PLANT	**19,722,273.96**						
	TOTAL ELECTRIC PLANT	**3,995,639,790.62**						

* ACCRUALS CALCULATED UTILIZING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 3.
** LIFE SPAN PROCEDURE WAS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
*** ASSETS ADDED AS OF JANUARY 1, 2024 TO THIS ACCOUNT SHOULD UTILIZE AN ANNUAL ACCRUAL RATE OF 1.00 DIVIDED BY THE AMORTIZATION PERIOD SET FORTH IN COLUMN 3.

NOTE: ASSETS ADDED IN ACCOUNT 363.00 (ELECTRIC BATTERY STORAGE) SHOULD UTILIZE AN ANNUAL ACCRUAL RATE OF 6.67% BASED ON A 15-L3 SURVIVOR CURVE.

PENNSYLVANIA POWER RATE DISTRICT

COMPARISON OF CURRENTLY APPROVED AND PROPOSED SURVIVOR CURVES, ANNUAL DEPRECIATION RATES AND ANNUAL ACCRUALS BY ACCOUNT AS OF DECEMBER 31, 2025

			CURRENTLY APPROVED			PROPOSED		
	ACCOUNT	ORIGINAL COST AS OF DECEMBER 31, 2025	SURVIVOR CURVE	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	SURVIVOR CURVE	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(2)	(3)	(4)=(2)*(5)	(5)	(6)	(7)	(8)=(7)/(4)
	ELECTRIC PLANT							
	INTANGIBLE PLANT							
303.00	MISCELLANEOUS INTANGIBLE PLANT	17,000,774.62	7-SQ	805,676	*	7-SQ	1,365,769	*
303.10	MISCELLANEOUS INTANGIBLE PLANT - SMART METER SOFTWARE	7,487,474.69	7-SQ	978,349	*	7-SQ	83,353	*
303.70	MISCELLANEOUS INTANGIBLE PLANT - CLOUD SOFTWARE	128,200.23	n/a	n/a	n/a	5-SQ	25,610	*
	TOTAL INTANGIBLE PLANT	**24,616,449.54**		**1,784,025**			**1,474,732**	
	DISTRIBUTION PLANT							
361.10	STRUCTURES AND IMPROVEMENTS	3,578,262.87	70-R3	43,297	1.21	70-R4	51,145	1.43
361.11	STRUCTURES AND IMPROVEMENTS - SUBTRANSMISSION	790,187.07	70-R4	6,084	0.77	70-R4	5,230	0.66
361.20	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING	454,297.63	70-R3	5,134	1.13	70-R4	5,306	1.17
361.21	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING - SUBTRANSMISSION	195,215.93	70-R4	2,186	1.12	70-R4	1,882	0.96
362.00	STATION EQUIPMENT	119,414,215.58	50-R1	2,233,046	1.87	52-R1	3,181,803	2.66
362.10	STATION EQUIPMENT - SUBTRANSMISSION	8,596,049.79	60-R1.5	85,960	1.00	52-R1	119,629	1.39
364.00	POLES, TOWERS AND FIXTURES	147,023,828.58	60-R2	2,190,655	1.49	65-R1.5	2,465,624	1.68
364.10	TOWERS AND FIXTURES - SUBTRANSMISSION	7,576.09	75-R4	4	0.05	75-R4	5	0.07
364.20	POLES AND FIXTURES - SUBTRANSMISSION	20,931,894.90	65-R1.5	278,394	1.33	65-R1.5	597,235	2.85
365.00	OVERHEAD CONDUCTORS AND DEVICES	202,127,171.13	64-R1	3,011,695	1.49	65-R1	4,598,977	2.28
365.01	OVERHEAD CONDUCTORS AND DEVICES - SUBTRANSMISSION	3,332,630.26	65-R2	51,989	1.56	65-R1	61,435	1.84
365.10	OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND GRADING	78,494,768.88	64-R1	1,208,819	1.54	64-R1	1,557,736	1.98
366.00	UNDERGROUND CONDUIT	8,232,922.93	65-R2.5	114,438	1.39	70-R2.5	117,378	1.43
366.10	UNDERGROUND CONDUIT - SUBTRANSMISSION	64,653.86	50-S2.5	582	0.90	70-R2.5	198	0.31
367.00	UNDERGROUND CONDUCTORS AND DEVICES	103,860,236.33	50-R2.5	1,962,958	1.89	50-R2.5	2,397,223	2.31
367.10	UNDERGROUND CONDUCTORS AND DEVICES - SUBTRANSMISSION	108,081.13	40-S1.5	2,875	2.66	50-R2.5	2,002	1.85
368.00	LINE TRANSFORMERS	143,404,699.69	43-R1.5	3,111,882	2.17	43-R1.5	4,153,666	2.90
369.00	SERVICES	48,923,822.40	60-R4	538,162	1.10	60-R4	618,950	1.27
370.10	METERS - SMART GRID	53,498,206.88	15-S2	4,001,666	7.48	15-S2	3,987,573	7.45
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	4,092,192.51	33-R2	70,795	1.73	33-R2	71,796	1.75
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	3,888,153.88	20-R2	448,304	11.53	20-R2	241,986	6.22
373.20	STREET LIGHTING AND SIGNAL SYSTEMS - ESIP	24,978.29	20-R2	1,776	7.11	20-R2	1,817	7.27
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	5,262,432.74	10-L1.5	669,908	12.73	20-R2	302,587	5.75
	TOTAL DISTRIBUTION PLANT	**956,306,479.35**		**20,040,609**	**2.10**		**24,541,183**	**2.57**
	GENERAL PLANT							
390.10	STRUCTURES AND IMPROVEMENTS	9,371,059.80	55-R2	121,824	1.30	55-R2	179,295	1.91
390.20	STRUCTURES AND IMPROVEMENTS - CLEARING AND GRADING	41,240.58	55-R2	701	1.70	55-R2	820	1.99
391.10	OFFICE FURNITURE AND EQUIPMENT	40,139.00	20-SQ	8,132	20.26	20-SQ	2,357	5.87
391.20	OFFICE FURNITURE AND EQUIPMENT - DATA PROCESSING EQUIPMENT	614,858.90	5-SQ	33,633	5.47	5-SQ	82,823	13.47
391.25	OFFICE FURNITURE AND EQUIPMENT - DATA PROCESSING EQUIPMENT SMART GRID	1,316,156.78	5-SQ	44,354	3.37	5-SQ	234,833	17.84
392.00	TRANSPORTATION EQUIPMENT	1,809,102.46	10-L2	138,035	7.63	10-L2	145,661	8.05
393.00	STORES EQUIPMENT	26,718.30	30-SQ	3,513	13.15	30-SQ	96	0.36
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	3,938,478.08	25-SQ	222,130	5.64	25-SQ	163,590	4.15
395.00	LABORATORY EQUIPMENT	21,539.71	20-SQ	1,245	5.78	20-SQ	1,243	5.77
396.00	POWER OPERATED EQUIPMENT	1,391,714.97	18-S2	64,993	4.67	20-S2	66,162	4.75
397.00	COMMUNICATION EQUIPMENT	10,580,276.71	15-SQ	1,032,635	9.76	15-SQ	906,814	8.57
398.00	MISCELLANEOUS EQUIPMENT	7,594.93	20-SQ	-	-	20-SQ	-	-
	TOTAL GENERAL PLANT	**29,158,880.22**		**1,671,195**	**5.73**		**1,783,694**	**6.12**
	TOTAL DEPRECIABLE PLANT	**1,010,081,809.11**		**23,495,829**	**2.33**		**27,799,609**	**2.75**

	NONDEPRECIABLE PLANT	
301.00	ORGANIZATION	22,833.53
302.00	FRANCHISES AND CONSENTS	68,665.97
350.00	LAND AND EASEMENTS	10,545,129.27
360.00	LAND AND EASEMENTS	8,453,311.46
374.00	ARC	4,407.74
389.00	LAND	226,950.18
390.30	STRUCTURES AND IMPROVEMENTS - LEASEHOLD IMPROVEMENTS	118,403.96
399.10	GENERAL PLANT ARO	32,875.01
	TOTAL NONDEPRECIABLE PLANT	**19,472,577.12**
	TOTAL ELECTRIC PLANT	**1,029,554,386.23**

* ACCRUALS CALCULATED UTILIZING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 3.
** ASSETS ADDED AS OF JANUARY 1, 2025 TO THIS ACCOUNT SHOULD UTILIZE AN ANNUAL ACCRUAL RATE OF 5.00% CONSISTENT WITH A 20-SQ SURVIVOR CURVE.

NOTE: ASSETS ADDED IN ACCOUNT 363.00 (ELECTRIC BATTERY STORAGE) SHOULD UTILIZE AN ANNUAL ACCRUAL RATE OF 6.67% BASED ON A 15-L3 SURVIVOR CURVE.

WEST PENN POWER RATE DISTRICT

COMPARISON OF CURRENTLY APPROVED AND PROPOSED DEPRECIATION RATES, ANNUAL ACCRUALS AND SURVIVOR CURVES BY FERC ACCOUNT AS OF DECEMBER 31, 2025

	DEPRECIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2025	CURRENTLY APPROVED SURVIVOR CURVE	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL AMOUNT	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL RATE	PROPOSED SURVIVOR CURVE	PROPOSED CALCULATED ANNUAL ACCRUAL AMOUNT	PROPOSED CALCULATED ANNUAL ACCRUAL RATE
	(1)	(2)	(3)	(4)=(2)*(5)	(5)	(6)	(7)	(8)
	ELECTRIC PLANT							
	INTANGIBLE PLANT							
303.10	MISCELLANEOUS INTANGIBLE PLANT - 7 YEAR LIFE	63,586,107.77	7-SQ	9,086,455	*	7-SQ	7,798,621	*
303.20	MISCELLANEOUS INTANGIBLE PLANT - 10 YEAR LIFE	60,260,237.75	10-SQ	6,026,024	*	10-SQ	0	*
303.30	MISCELLANEOUS INTANGIBLE PLANT - CLOUD SOFTWARE	451,723.33	-	-	-	5-SQ	90,355	*
	TOTAL INTANGIBLE PLANT	**124,298,068.85**		**15,112,479.00**			**7,888,976**	
	DISTRIBUTION PLANT							
360.20	LAND RIGHTS	10,877,053.47	75-R4	178,384	1.64	75-R4	179,331	1.65
361.00	STRUCTURES AND IMPROVEMENTS	24,234,955.87	75-R3	276,278	1.14	70-R3	319,686	1.32
362.10	STATION EQUIPMENT	415,056,899.17	60-R1.5	4,856,166	1.17	60-R1.5	6,896,590	1.66
362.15	STATION EQUIPMENT - SUBTRANSMISSION	18,897,055.83	60-R1.5	238,103	1.26	60-R1.5	274,215	1.45
362.40	STATION EQUIPMENT - SCADA	4,897,084.73	35-R2.5	18,119	0.37	35-R2.5	28,518	0.58
364.00	POLES, TOWERS AND FIXTURES	499,104,443.69	63-R2	6,837,731	1.37	70-R2	8,381,933	1.68
364.55	POLES AND FIXTURES - SUBTRANSMISSION	73,660,720.07	65-R2.5	758,705	1.03	70-R2	968,644	1.32
365.10	OVERHEAD CONDUCTORS AND DEVICES	596,080,998.51	60-R1	9,775,728	1.64	60-R1	14,668,477	2.46
365.15	OVERHEAD CONDUCTORS AND DEVICES - SUBTRANSMISSION	57,488,342.16	70-R3	540,390	0.94	60-R1	1,071,918	1.86
365.20	OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND DAMAGES	325,378,537.70	75-R4	4,392,610	1.35	75-R4	4,655,729	1.43
365.25	OVERHEAD CONDUCTORS AND DEVICES - CLEARING AND DAMAGES - SUBTRANSMISSION	24,960,133.41	75-R4	321,986	1.29	75-R4	345,037	1.38
366.00	UNDERGROUND CONDUIT	24,641,325.25	60-R3	450,936	1.83	65-R3	425,886	1.73
366.50	UNDERGROUND CONDUIT - SUBTRANSMISSION	11,035.25	50-S2	232	2.10	65-R3	199	1.80
367.00	UNDERGROUND CONDUCTORS AND DEVICES	247,872,800.22	50-R2.5	4,511,285	1.82	55-R2.5	5,029,093	2.03
367.50	UNDERGROUND CONDUCTORS AND DEVICES - SUBTRANSMISSION	13,620,057.73	40-S2.5	362,294	2.66	55-R2.5	231,403	1.70
368.00	LINE TRANSFORMERS	518,416,733.65	45-R2	10,731,226	2.07	48-R1.5	12,215,288	2.36
369.00	SERVICES	147,727,859.09	50-R2.5	2,496,601	1.69	55-R2.5	2,578,175	1.75
370.30	METERS - SMART GRID	214,336,260.81	15-S2	15,282,175	7.13	15-S2	15,926,247	7.43
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES	9,987,325.49	32-R1	264,664	2.65	32-R1.5	207,157	2.07
372.00	LEASED PROPERTY	296,618.63	27-R1.5	3,945	1.33	30-R1.5	2,345	0.79
373.10	STREET LIGHTING AND SIGNAL SYSTEMS	27,182,641.03	25-L0	1,263,993	4.65	25-L0	1,604,136	5.90
373.30	STREET LIGHTING AND SIGNAL SYSTEMS - LED	26,320,421.19	25-L0	1,223,900	4.65	20-R2	1,841,095	6.99
	TOTAL DISTRIBUTION PLANT	**3,281,049,302.95**					**77,851,102**	**2.37**
	GENERAL PLANT							
389.20	LAND RIGHTS	293,153.40	75-R4	3,694	1.26	75-R4	3,975	1.36
390.10	STRUCTURES AND IMPROVEMENTS							
	ARNOLD SERVICE CENTER	3,558,666.90	55-S0.5 **	91,102	2.56	55-S0.5 **	278,462	7.82
	BOYCE SERVICE CENTER	2,167,492.63	55-S0.5 **	71,094	3.28	55-S0.5 **	79,767	3.68

WEST PENN POWER RATE DISTRICT

COMPARISON OF CURRENTLY APPROVED AND PROPOSED DEPRECIATION RATES, ANNUAL ACCRUALS AND SURVIVOR CURVES BY FERC ACCOUNT AS OF DECEMBER 31, 2025

	DEPRECIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2025	CURRENTLY APPROVED SURVIVOR CURVE		CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL AMOUNT	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL RATE	PROPOSED SURVIVOR CURVE		PROPOSED CALCULATED ANNUAL ACCRUAL AMOUNT	PROPOSED CALCULATED ANNUAL ACCRUAL RATE
	(1)	(2)	(3)		(4)=(2)*(5)	(5)	(6)		(7)	(8)
	BUTLER SERVICE CENTER	3,006,897.18	55-S0.5	**	105,542	3.51	55-S0.5	**	171,214	5.69
	CHARLEROI SERVICE CENTER	4,892,375.59	55-S0.5	**	116,928	2.39	55-S0.5	**	147,393	3.01
	CLARION SERVICE CENTER AND POLE YARD	1,754,807.61	55-S0.5	**	36,851	2.10	55-S0.5	**	63,997	3.65
	CONNELLSVILLE CONFERENCE CENTER	2,806,195.11	55-S0.5	**	45,741	1.63	55-S0.5	**	77,178	2.75
	CONNELLSVILLE HAZARDOUS MATERIAL	706,427.51	55-S0.5	**	19,992	2.83	55-S0.5	**	20,661	2.92
	CONNELLSVILLE METER LAB AND STOREHOUSE	828,706.26	55-S0.5	**	1,575	0.19	55-S0.5	**	75	0.01
	CONNELLSVILLE COVERED STORAGE AND OFFICE	12,052,051.36	55-S0.5	**	365,177	3.03	55-S0.5	**	551,255	4.57
	CONNELLSVILLE QUONSET STOREHOUSE	193,295.02	55-S0.5	**	0	-	55-S0.5	**	0	-
	CONNELLSVILLE GENERAL AND TRANSFORMER SHOP	2,169,792.09	55-S0.5	**	83,537	3.85	55-S0.5	**	82,890	3.82
	CONNELLSVILLE OIL STORAGE/WATER SEPARATOR	527,202.87	55-S0.5	**	0	-	55-S0.5	**	0	-
	CONNELLSVILLE GARAGE	4,104,512.24	55-S0.5	**	113,695	2.77	55-S0.5	**	128,364	3.13
	CONNELLSVILLE WEST SIDE COMPLEX	2,128,076.12	55-S0.5	**	4,895	0.23	55-S0.5	**	32,843	1.54
	DUNBAR STORAGE FACILITY	2,682,455.59	55-S0.5	**	110,249	4.11	55-S0.5	**	124,596	4.64
	JEANETTE SERVICE CENTER	8,127,361.43	55-S0.5	**	129,225	1.59	55-S0.5	**	197,799	2.43
	JEANETTE SERVICE CENTER GARAGE	921,620.12	55-S0.5	**	22,672	2.46	55-S0.5	**	25,123	2.73
	JEFFERSON SERVICE CENTER	2,287,324.40	55-S0.5	**	51,236	2.24	55-S0.5	**	93,011	4.07
	KITTANNING SERVICE CENTER	3,869,062.02	55-S0.5	**	147,798	3.82	55-S0.5	**	88,290	2.28
	KITTANNING SERVICE CENTER GARAGE	745,933.28	55-S0.5	**	15,888	2.13	55-S0.5	**	16,183	2.17
	LATROBE SERVICE CENTER	4,805,646.80	55-S0.5	**	106,205	2.21	55-S0.5	**	412,051	8.57
	MCCONNELLSBURG SERVICE CENTER	1,472,017.02	55-S0.5	**	52,845	3.59	55-S0.5	**	56,914	3.87
	PLEASANT VALLEY SERVICE CENTER	3,263,966.03	55-S0.5	**	82,905	2.54	55-S0.5	**	141,652	4.34
	ST. MARYS SERVICE CENTER	4,339,296.01	55-S0.5	**	125,406	2.89	55-S0.5	**	123,683	2.85
	ST. MARYS SERVICE CENTER GARAGE	1,785,128.91	55-S0.5	**	54,803	3.07	55-S0.5	**	59,391	3.33
	STATE COLLEGE SERVICE CENTER GARAGE	1,961,300.02	55-S0.5	**	48,444	2.47	55-S0.5	**	55,328	2.82
	WASHINGTON SERVICE CENTER	12,628,099.06	55-S0.5	**	328,331	2.60	55-S0.5	**	1,375,064	10.89
	WAYNESBORO SERVICE CENTER	3,395,224.32	55-S0.5	**	127,660	3.76	55-S0.5	**	102,581	3.02
	WAYNESBORO SERVICE CENTER GARAGE	962,919.52	55-S0.5	**	26,865	2.79	55-S0.5	**	26,993	2.80
	GREENSBURG (NEW)	25,690,279.06	-	**	-	-	55-S0.5	**	767,635	2.99
	MINOR STRUCTURES	10,976,943.30	45-R3		363,337	3.31	45-R3		330,726	3.01
	TOTAL ACCOUNT 390.10	130,811,075.38			2,849,998				5,631,119	4.30
391.10	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	3,247,989.33	16-SQ		193,255	5.95	16-SQ		179,483	5.53
391.20	OFFICE FURNITURE AND EQUIPMENT - INFORMATION SYSTEMS	10,913,916.36	7-SQ		1,698,205	15.56	7-SQ		1,626,877	14.91
391.30	OFFICE FURNITURE AND EQUIPMENT - DATA HANDLING EQUIPMENT	10,960.30	16-SQ		527	4.81	16-SQ		0	-
391.50	OFFICE FURNITURE AND EQUIPMENT - SMART METERS HARDWARE	4,981,431.25	5-SQ		549,452	11.03	5-SQ		955,231	19.18
392.10	TRANSPORTATION EQUIPMENT - AUTOS	9,115,231.93	8-S2		1,218,707	13.37	8-S2		1,057,591	11.60
392.20	TRANSPORTATION EQUIPMENT - LIGHT TRUCKS	1,386,702.25	11-L2.5		108,717	7.84	12-S1		93,990	6.78
392.30	TRANSPORTATION EQUIPMENT - MEDIUM AND HEAVY TRUCKS	805,637.61	12-L3		12,004	1.49	12-L3		79,297	9.84
392.40	TRANSPORTATION EQUIPMENT - TRAILERS	438,040.31	24-S1		9,111	2.08	24-S1		8,678	1.98

WEST PENN POWER RATE DISTRICT

COMPARISON OF CURRENTLY APPROVED AND PROPOSED DEPRECIATION RATES, ANNUAL ACCRUALS AND SURVIVOR CURVES BY FERC ACCOUNT AS OF DECEMBER 31, 2025

	DEPRECIABLE GROUP	ORIGINAL COST AS OF DECEMBER 31, 2025	CURRENTLY APPROVED SURVIVOR CURVE	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL AMOUNT	CURRENTLY APPROVED CALCULATED ANNUAL ACCRUAL RATE	PROPOSED SURVIVOR CURVE	PROPOSED CALCULATED ANNUAL ACCRUAL AMOUNT	PROPOSED CALCULATED ANNUAL ACCRUAL RATE
	(1)	(2)	(3)	(4)=(2)*(5)	(5)	(6)	(7)	(8)
392.60	TRANSPORTATION EQUIPMENT - ALL TERRAIN VEHICLES	200,858.76	10-S2.5	14,221	7.08	11-S2.5	4,377	2.18
393.00	STORES EQUIPMENT	219,465.63	25-SQ	10,183	4.64	25-SQ	8,561	3.90
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20,381,144.45	15-SQ	1,389,994	6.82	15-SQ	1,316,745	6.46
395.00	LABORATORY EQUIPMENT	384,080.12	23-SQ	7,029	1.83	23-SQ	12,187	3.17
396.00	POWER OPERATED EQUIPMENT	265,470.35	20-S0.5	6,000	2.26	20-S0.5	4,036	1.52
397.00	COMMUNICATION EQUIPMENT	37,820,908.42	12-SQ	3,158,046	8.35	12-SQ	3,005,641	7.95
398.00	MISCELLANEOUS EQUIPMENT	11,270.01	14-SQ	852	7.56	14-SQ	0	-
	TOTAL GENERAL PLANT	**221,287,335.86**		**11,229,995**			**13,987,788**	**6.32**
	TOTAL DEPRECIABLE PLANT	**3,626,634,707.66**		**91,127,925**			**99,727,866**	**2.75**
	NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED							
301.00	ORGANIZATION	156,797.11						
350.10	LAND	2,499,695.10						
350.20	LAND RIGHTS	31,457,349.73						
360.10	LAND	6,737,625.52						
374.00	ARO FOR DISTRIBUTION PLANT	15,612.81						
389.10	LAND	2,062,853.82						
390.10	STRUCTURES AND IMPROVEMENTS - GREENSBURG	71,500,051.66						
390.20	STRUCTURES AND IMPROVEMENTS - LEASED	1,685,110.24						
399.10	ARO FOR GENERAL PLANT	732,514.28						
	TOTAL NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED	**116,847,610.27**						
	TRANSMISSION PLANT							
303.10	MISCELLANEOUS INTANGIBLE PLANT - 7 YEAR LIFE	12,085,204.99						
352.00	STRUCTURES AND IMPROVEMENTS	20,655,216.28						
353.10	STATION EQUIPMENT	288,942,032.74						

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, David Garrett, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 3, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 25, 2024

Signature:

David Garrett

Address: Resolve Utility Consulting PLLC
101 Park Avenue Suite 1125
Oklahoma City, OK 73102

OCA St. 3SR

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**:**	
v.	**:**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Company	**:**	

SURREBUTTAL TESTIMONY

OF

DAVID J. GARRETT

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

August 8, 2024

Q. State your name and occupation.

A. My name is David J. Garrett. I am a consultant specializing in public utility regulation. I am the managing member of Resolve Utility Consulting PLLC.

Q. Have you previously filed testimony in this proceeding?

A. Yes. I filed direct testimony in OCA Statement 3 on June 25, 2024, on behalf of the Pennsylvania Office of Consumer Advocate ("OCA"). A summary of my qualifications is included in my direct testimony.

Q. What is the purpose of your surrebuttal testimony?

A. My surrebuttal testimony responds to the rebuttal testimony of FirstEnergy Pennsylvania Electric Company's ("FirstEnergy" or the "Company") witness John Spanos regarding depreciation issues.

Q. Did the Company's rebuttal testimony cause you to change any of your positions or recommendations discussed in your direct testimony?

A. No. Additionally, to the extent I do not specifically address a statement made in the company's rebuttal testimony filed in this case, it should not constitute my agreement with such testimony.

Q. Are you sponsoring any exhibits to your surrebuttal testimony?

A. No.

Q. Please summarize your surrebuttal testimony directed to the rebuttal testimony of Mr. Spanos.

A. In my surrebuttal testimony to Mr. Spanos, I will address the issues discussed in his rebuttal testimony regarding the average life group ("ALG") vs equal life group ("ELG") issues. I

will also respond to Mr. Spanos's criticisms regarding my service life estimates. However, as discussed in my direct testimony, I do not propose any actual service life adjustments in this case.

A. ALG vs. ELG

Q. Please summarize Mr. Spanos's criticisms regarding your use of the ALG procedure.

A. Mr. Spanos disagrees with my proposal to use the ALG procedure in this case, and he argues that the ALG method results in a "poor matching of recovery to utilization of the assets."[1]

Q. What is your response to Mr. Spanos's testimony on this issue.

A. In reading Mr. Spanos's testimony, one could get the impression that Mr. Spanos himself does not also use the ALG in most of the depreciation studies that he conducts. However, based on my experience in reviewing Mr. Spanos's depreciation studies filed in many other jurisdictions, Mr. Spanos primarily uses the ALG procedure I am proposing in this case. This fact alone should negate any of Mr. Spanos's suggestions that the ALG procedure might not be fair or accurate. In other words, his claim in this case that the ALG results in a poor matching of recovery to utilization of the assets is contradicted by the fact that he has used this very method to recommend depreciation rates in many jurisdictions that he has suggested were fair, reasonable, and accurate in those cases. In reality, the ALG

[1] Rebuttal Testimony of John Spanos, p. 14, lines 1-2.

procedure that Mr. Spanos uses a majority of the time is very fair and reasonable (assuming reasonable estimates are made for other depreciation parameters). Furthermore, it is not a reasonable proposition for Mr. Spanos to suggest that his decisions are somehow affected by the financial well-being of future customers. Mr. Spanos does not represent either present or future customers in this case, and he exclusively represents utility companies as I recall. Also, in Mr. Spanos's rebuttal testimony, I did not see him rebut the fact that compared with the ALG procedure, the ELG procedure will result in higher depreciation rates for customers. Likewise, the ELG procedure will result in higher cash flows for FirstEnergy relative to the ALG procedure.

Q. Did Mr. Spanos rebut the fact that current customers would pay more for the Company's assets relative to future customers under the ELG procedure?

A. No. This point is undisputable, and is proven mathematically in both Mr. Spanos's testimony and my testimony. Under the ELG procedure proposed by Mr. Spanos (in this jurisdiction), current customers would effectively be subsidizing future customers by paying a larger proportionate share of what is essentially the same asset base. This was demonstrated in an example presented in my direct testimony. In that example, there were two units being depreciated – one with an original cost of $4,000 and a 4-year life and the second with an original cost of $6,000 and an 8-year life. Thus, the average life of this group is 6.4 years. Under the ALG procedure, the depreciation rate is 15.625% per year (1/6.4 = 15.625%). Under the ELG procedure, however, there are higher rate and accrual amounts during the earlier years. In reality, FirstEnergy has numerous units of property

that are depreciated on a group basis in each account. Under the ELG procedure, customers' actual rates (not just depreciation rates), would need to be adjusted every year in order for the ELG procedure to produce accurate depreciation rates. Since that is neither how rate making is done nor is it practical, the vast majority of jurisdictions have adopted the ALG procedure.

Q. Mr. Spanos states that the Commission has approved ELG rates in prior proceedings. What is your response to his testimony?

A. On advice of counsel, my understanding is that the Commission approved settlements to resolve the base rate cases for Veolia's predecessor SUEZ Water in 2018[2] and United Water of Pennsylvania in 2015.[3] Also, that each of those settlements included an agreement to use the Company's proposed depreciation rates, while silent as to methodology. Regarding other cases cited by Mr. Spanos in his testimony, it is not clear if, and to what extent, the use of the ELG procedure was challenged by an intervening party to those cases. Regardless, I maintain the fairest and most reasonable approach in this case is for the Commission to adopt the procedure used by the vast majority of regulatory jurisdictions based on my experience, which is the ALG procedure. The ELG procedure is effectively

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[2] P.U.C. v. SUEZ Water Pennsylvania Inc, Docket No. R-2018-3000834, Joint Petition for Settlement, ¶ III.19.f. (filed Oct. 10, 2018), available at https://www.puc.pa.gov/pcdocs/1589456.pdf. Settlement approved by PUC Order at ¶ 2 (entered Dec. 6, 2018), available at https://www.puc.pa.gov/pcdocs/1597092.docx.

[3] P.U.C. v. United Water Pennsylvania Inc, Docket No. R-2015-2462723, Joint Petition for Approval of Settlement of Rate Proceeding, ¶ III.15.g. (filed June 26, 2015), available at https://www.puc.pa.gov/pcdocs/1368760.pdf . Settlement approved by PUC Order at ¶ 2 (entered Aug. 20, 2015), available at https://www.puc.pa.gov/pcdocs/1377965.doc.

a form of accelerated cost recovery for the utility, as the difference in depreciation rate proposals demonstrates in this case.

Q. Mr. Spanos claims that Pennsylvania regulation requires utilities operating within the state to calculate and file updated depreciation rates annually, and that this requirement alleviates the concerns raised in my testimony about the unfair application of the ELG procedure. Do you agree with Mr. Spanos on this issue?

A. No. Mr. Spanos cited[4] Pennsylvania regulations that require public utilities to file an annual depreciation report with the Commission. Even if depreciation studies are updated annually in Pennsylvania, however, it is my understanding that customer rates are not updated annually pursuant to any updates to a depreciation report that is solely being required by the Public Utility Commission for accounting purposes. Thus, the unfair aspects of the ELG procedure that cause current customers to subsidize future customers are not alleviated by an annual update to a utility's depreciation report. That is, the accelerated depreciation rates that occur when rates are adopted under the ELG procedure would continue to burden customers until the utility's next rate proceeding, rather than the annual updates discussed by Mr. Spanos.

[4] Rebuttal Testimony of John Spanos, p. 22, lines 11-12.

B. Service Life Analysis

Q. Please summarize Mr. Spanos's criticisms regarding your service life estimates.

A. Mr. Spanos suggests that my service life estimates are based on a "purely mathematical exercise"[5] and that I did not incorporate an appropriate amount of judgment in estimating service lives through Iowa curve fitting.[6]

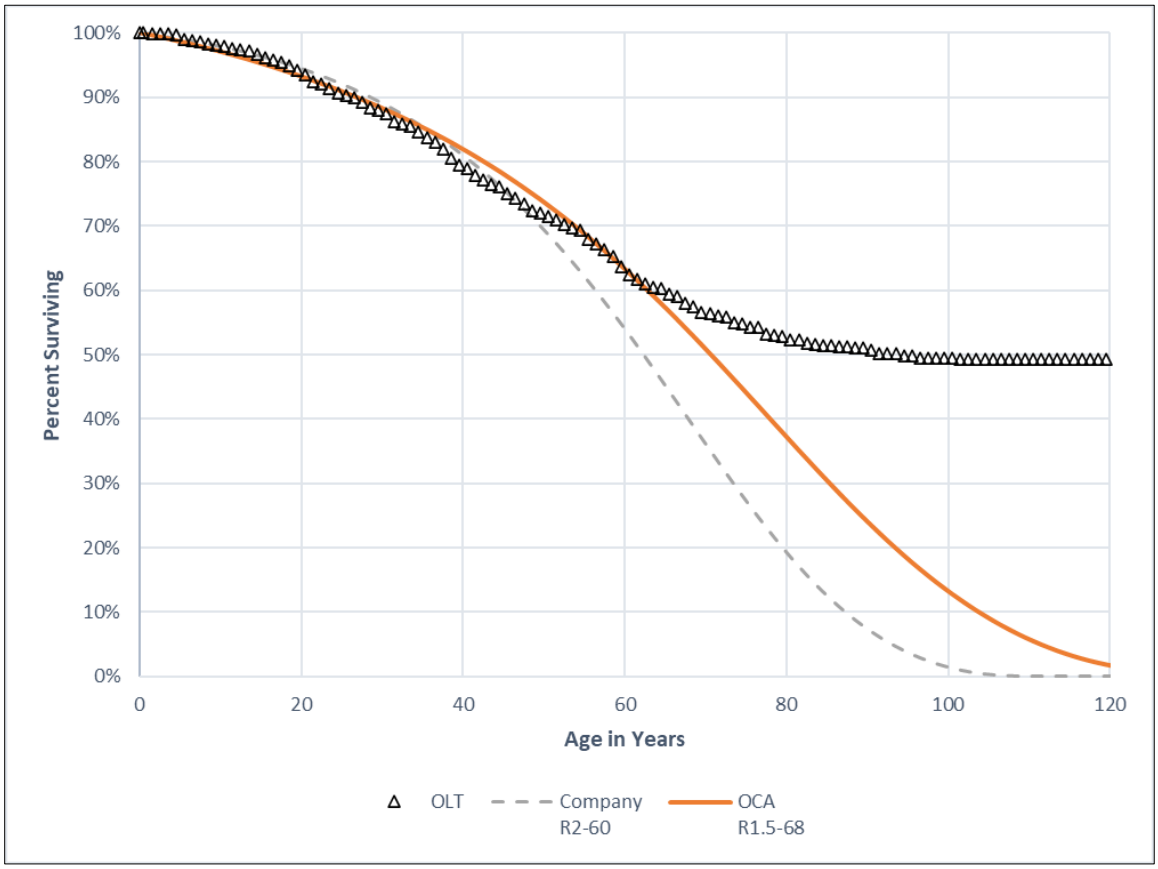
Q. What is your response to Mr. Spanos's testimony on these issues.

A. I do not agree with Mr. Spanos's suggestion that my service life estimates are based solely on mathematical curve fitting. As an example, I use the analysis I presented in my Direct Testimony regarding my service life estimate for Met-Ed Account 362 – Station Equipment. The following graph shows the observed life table ("OLT") curve for these accounts. The OLT curve represents the Company's actual historical retirement pattern. The graph also shows the Iowa curves Mr. Spanos and I selected for this account. For this account, Mr. Spanos selected the R2-60 Iowa curve, and I selected the R1.5-68 Iowa curve.

[5] Rebuttal Testimony of John Spanos, p. 33, line 9.

[6] *Id*. at pp. 33-34.

Figure 1:
Met-Ed Account 362 – Station Equipment



As discussed in my direct testimony, the R1.5-68 Iowa curve I selected resulted in a closer fit to the OLT curve for this account – a fact which I verified mathematically. For this account (as with the other accounts in dispute), the Company did not present any convincing evidence outside of the statistical data (i.e., the data shown in this graph), as to why the R2-60 curve resulted in the most accurate service life estimate for this account. While the R1.5-68 curve I selected resulted in a better mathematical fit than the R2-60 curve, it is not the curve that results in the *best* mathematical fit. As clearly shown in the

graph, there are much longer Iowa curves that could have been used that would have resulted in closer mathematical fits. While I prefer to focus on mathematical curve fitting because it leads to objective, unbiased results, I also incorporate an appropriate amount of professional judgment and visual curve fitting techniques into my approach to ensure the end result is reasonable. Often, the Iowa curve I select is *shorter* than the best mathematically fitting curve (as was the case for this account), which means that my incorporation of professional judgment and visual curve fitting techniques actually leads to a higher depreciation rate and expense than what would have resulted if my estimates had been based solely on mathematical best fit curves.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does at this time.

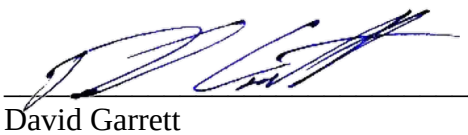
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, David Garrett, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 3SR, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2024

Signature: 

David Garrett

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OCA St. No. 4

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2022-3047068**
FirstEnergy Pennsylvania Electric Company	**)**	

DIRECT TESTIMONY OF

KARL RICHARD PAVLOVIC

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

June 25, 2024

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I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Karl Richard Pavlovic. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am Managing Director of and a Senior Consultant with PCMG and Associates LLC ("PCMG"). PCMG is an association of experts in economics, accounting, finance, and utility regulation and policy, with over 75 years of collective experience providing assistance to counsel and expert testimony regarding the regulation of electric, gas, water, and wastewater utilities.

Q. HAVE YOU PREPARED A SUMMARY OF YOUR QUALIFICATIONS AND EXPERIENCE?

A. Yes. Exhibit KRP-1 to my testimony summarizes my qualifications and experience.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN REGULATORY PROCEEDINGS?

A. Yes. Exhibit KRP-1 also contains a complete list of my engagements as an expert and/or expert witness in matters before state and federal regulatory agencies. I have submitted testimony to the Federal Communications Commission, the Federal Energy Regulatory Commission, the Alaska Public Utilities Commission, the Alberta Utilities Commission, the California Public Utilities Commission, the Delaware Public Service Commission, the Public Service Commission of the District of Columbia, the Hawaii Public Utilities Commission, the Illinois Commerce Commission, the Kansas Corporation Commission, the Maine Public Utilities Commission, the Maryland Public Service Commission, the

Massachusetts Department of Public Utilities, the Missouri Public Service Commission, and the North Dakota Public Service Commission.

Q. PLEASE SUMMARIZE YOUR ELECTRIC AND GAS REGULATORY EXPERIENCE.

A. For most of my career I have performed analyses of and submitted testimony regarding electric and gas utility least-cost planning, reliability, cost of service, rate design, and weather-emergency response. Specifically regarding electric utilities, I have testified on: (a) integrated resource planning, (b) weather emergency response and recovery, (c) the restructuring of electric markets and unbundling of retail rates, (d) class cost of service and rate design, and (e) infrastructure-related expense and investment recovery mechanisms.

II. PURPOSE OF TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate ("OCA").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony responds to the FirstEnergy Pennsylvania Electric Company (FirstEnergy) proposed allocated class cost of service studies, revenue allocations, rate designs and proposed LED streetlight conversion program in this proceeding.

III. DISCUSSION

A. SUMMARY

Q. PLEASE SUMMARIZE THE SUBSTANCE OF YOUR TESTIMONY.

A. As detailed below, I find that:

- There is no basis in theory, system design and operating practice, or empirical quantitative data to support FirstEnergy's use of the minimum-size method to classify as customer-related any portion of its distribution costs in Accounts 364, 365, 366, 367 and 368 in its rate district COSSs and I recommend that the Commission reject FirstEnergy's rate district COSS results as a guide for class revenue allocation in this proceeding;
- FirstEnergy's rate district COSSs without minimum-size classification produces results that are consistent with the principle of cost causation, and I recommend that the Commission accept the results of FirstEnergy's rate district COSSs without minimum-size classification as a guide for class revenue allocation;
- Revenue allocation to FirstEnergy's rate districts guided by rate district COSSs without minimum-size classification is just and reasonable;
- To provide residential customers with (1) an incentive to engage in conservation and (2) the ability to exercise control over a significant portion of their monthly electric distribution bill, and (3) to avoid deleterious impact on low-income customers, FirstEnergy's rate districts' residential customer charges should remain at their current levels.

- Recovery of the costs of FirstEnergy's proposed LED conversion program should be via a surcharge mechanism that would make the recovery transparent to ratepayers, properly synchronizing program costs with receipt of benefits, and distribute the cost recovery in a notionally equitable manner.

B. COST ALLOCATION AND RATE DESIGN

Q. WHAT IS THE RELATIONSHIP BETWEEN COST ALLOCATION AND RATE DESIGN?

A. In regulatory theory and practice the relationship between cost allocation and rate design and the utility's recovery of its approved revenue requirement is conceptually simple. If a utility's costs of providing service are not accurately allocated to its rate classes and rate class costs are not accurately reflected in the rate classes' tariff billing charges, then the utility will either over or under recover its costs of service or revenue requirement. The less accurately the costs are reflected in the rate classes' tariff billing charges, the greater the utility's under or over recovery of its costs will be. Regarding electric utilities, the primary drivers of costs are (1) the number of customers served by the utility's production and delivery system, (2) customer demand on the system, and (3) the volume of electric energy delivered to customers.

In this proceeding, the revenue requirement, class costs and tariff rates at issue concern FirstEnergy's retail distribution delivery systems serving customers in its Met-Ed, Penelec, Penn Power, and West Penn Power rate districts. Consequently, the fundamental issue is whether FirstEnergy's proposed customer class cost allocations and tariff rates (1) accurately reflect the customer costs, demand costs, and commodity costs of its customers

and (2) thus minimize the likelihood of either under or over recovery of FirstEnergy's electric revenue requirement.

C. TARIFF RATE CLASSES AND RATE STRUCTURES

Q. WHAT TARIFF RATE CLASSES AND RATE STRUCTURES DOES FIRSTENERGY PROPOSE?

A. FirstEnergy proposes thirty-one tariff rate classes spread over its four rate districts. FirstEnergy's proposed base rate structures consist of a fixed monthly customer charge and a kilowatt-hour volumetric distribution charge; five of the rate classes also have kilowatt demand charge; and one has a transformer charge.[1] There are eighteen outdoor lighting and street lighting tariff rate classes spread over FirstEnergy's Met-Ed, Penelec, Penn Power and West Penn Power rate districts, all of which have multiple per light monthly charges.[2]

Q. ARE ALL THIRTY-ONE TARIFF RATE CLASSES INCLUDED IN THE CUSTOMER CLASSES USED IN FIRSTENERGY'S CLASS COST OF SERVICE STUDIES (COSS)?

A. Yes, but the four rate district COSSs aggregate the eighteen outdoor and street lighting and several of the other tariff rate classes into the eleven costing customer classes shown in Table 1 below.

[1] Direct Testimony of Timothy Lyons (Statement No.7), page 8 lines 11-12; Electric Pa P.U.C. No.1, pages 61 – 104.
[2] Electric Pa P.U.C. No.1, pages 106 – 179.

Table 1 – FirstEnergy COSS Customer Classes				
Rate Class	**Met-Ed**	**Penelec**	**Penn Power**	**West Penn Power**
Residential	X	X	X	X
General Service Volunteer	X	X	X	X
General Service Small	X	X	X	X
General Service Medium	X	X	X	X
General Service Large	X	X	X	X
General Service Primary	X	X	X	X
General Service Transmission Power	X	X	X	X
Borderline Service	X	X		
Municipal Streetlighting Service	X	X	X	X
Private Outdoor Lighting	X	X	X	X
Streetlighting Service	X	X	X	X

Q. DO YOU HAVE ANY CRITICISMS OF FIRSTENERGY'S PROPOSED RATE CLASSES AND RATE STRUCTURES?

A. I do not have any criticisms of FirstEnergy's proposed tariff rate classes and rate structures, but as discussed below, I have concerns about FirstEnergy's rate design for residential customers in so far as it proposes to increase the residential customer charge.

D. CLASS COST OF SERVICE STUDIES

Q. HAVE YOU EXAMINED FIRSTENERGY'S CLASS COST OF SERVICE STUDIES?

A. Yes. FirstEnergy's class cost of service studies (Exhibit TSL-1) are based on FirstEnergy's projected test year ending December 31, 2024 for each of its four rate districts – Met-Ed, Penelec, Penn Power and West Penn Power. The COSSs consists of four excel workbooks that FirstEnergy has designated confidential and proprietary. Each workbook contains multiple linked worksheets and is linked to further excel workbooks that contain special studies used in the cost classification and allocation process.[3] The COSSs follow a three-step procedure of (1) functionalization of costs, (2) classification of functionalized costs as demand-related, commodity-related or customer-related, (3) allocation to classes of the classified functionalized costs using demand, commodity and customer allocators.[4] Finally, only class rates of return under present rates are calculated in the COSSs. I have calculated all other class rates of return as well as relative rates of returns that appear in my testimony below. The COSSs use the minimum-size method to classify the distribution facilities in plant accounts 364-368 as consisting of both a customer-related component and a demand-related component, with the customer component allocated to classes on number of customers and the demand component allocated to classes on demand.[5]

[3] Exhibit FE PA TSl-1 Class Cost of Service Study Met Ed (FE PA MetEd CCOS CONFIDENTIAL and PROPRIETARYxlsx), Penelec (FE PA Penelec CCOS CONFIDENTIAL and PROPRIETARYxlsx), Penn Power (FE PA PennPower CCOS CONFIDENTIAL and PROPRIETARYxlsx, West Penn (FE PA WestPenn CCOS CONFIDENTIAL and PROPRIETARYxlsx).
[4] Lyons Direct, page 9 line 1 to page 19 line10.
[5] Lyons Direct, page 14 line 6 to page 16 line 5

Q. WHAT FACILITIES ARE CONTAINED IN FIRSTENERGY'S DISTRIBUTION PLANT ACCOUNTS 364-368?

A. FirstEnergy's plant accounts 364-368 contain costs associated with the overhead and underground wires, supporting structures, and line transformers that connect the distribution system to meters and other installations at customer premises.

Q. WHAT IS THE MINIMUM-SIZE SYSTEM METHOD OF CLASSIFICATION AND ALLOCATION?

A. It is one of two methods for classification of distribution costs that are described in the NARUC Electric Utility Cost Allocation Manual: (1) the minimum-size method,[6] which FirstEnergy uses and (2) the minimum-intercept method.[7] The objective of the minimum-size method is to classify distribution plant and associated operating costs to determine the cost driver of each rate base item and operating cost — namely demand or customers — and allocate the plant and operating costs purportedly consistent with the principle of cost causation. FirstEnergy applies the minimum-size method to plant accounts 364, 365, 366, 367, and 368.

The minimum-size system method assumes that a minimum-size distribution system can be built to serve the minimum loading requirements of the system's customers.[8] This assumption is addressed below. The NARUC Manual describes how to calculate the minimum-size and cost of a given distribution system.[9] The calculated minimum-size

[6] National Association of Regulatory Utility Commissioners (NARUC) Electric Utility Cost Allocation Manual (NARUC Manual) 1992, pages 90-92.
[7] NARUC Manual, pages 92-94.
[8] NARUC Manual, page 90.
[9] NARUC Manual, pages 91-92.

system costs for each distribution plant type are classified as customer-related and allocated to classes based on the number of customers. The remaining cost of each plant type is classified as demand-related and allocated based on demand.

Q. HAVE YOU IDENTIFIED ANY COST CLASSIFICATION ERRORS IN THE COSS?

A. Yes. In the classification step, as I noted above, FirstEnergy uses the minimum-size system method to classify portions of the four rate districts' distribution systems as both demand-related and customer-related. Classifying any portion of these distribution accounts as customer-related contravenes the principle of cost causation, which is the guiding principle of all regulated utility cost of service studies.[10]

Q. WHAT SUPPORT DOES FIRSTENERGY OFFER FOR ITS USE OF THE MINIMUM-SIZE METHOD OF CLASSIFICATION?

A. None other than that provided in the NARUC Manual (discussed below). While I requested in a data request FirstEnergy's planning, design and operating standards and procedures applicable to the distribution facilities recorded in plant accounts 364-368, FirstEnergy declined to provide them, stating simply that FirstEnergy's minimum-size classification of plant accounts 364-368 reflects its planning, design and operating standards and procedures.[11]

[10] NARUC Manual, pages 12-13.
[11] FirstEnergy response to OCA DR 13-1.

Q. WHY DID YOU REQUEST FIRSTENERGY'S PLANNING, DESIGN AND OPERATING STANDARDS AND PROCEDURES FOR PLANT ACCOUNTS 364-368?

A. With FirstEnergy's planning, design and operating standards and procedures for plant accounts 364-368, I and the Commission would be able to confirm or disconfirm FirstEnergy's assertion that customers are the cause of a portion of the costs of the facilities in its plant accounts 364-368. If customers are not a factor in the planning, design and operation of FirstEnergy's account 364-368 distribution assets, then there is in fact no support for FirstEnergy's application of minimum-size classification of the costs in plant accounts 364-368.

Q. ARE YOU RECOMMENDING REVISIONS TO FIRSTENERGY'S MINIMUM-SIZE SYSTEM METHOD USED IN THE COSS?

A. No. As I explain below. I am recommending that FirstEnergy's minimum-size classification of a portion of its distribution costs as customer-related be rejected, because FirstEnergy has not provided any quantitative evidence that customers are in fact the cause or driver of any portion of its distribution costs.

Q. IS THE MINIMUM-SIZE METHOD COMMONLY USED BY ELECTRIC UTILITIES?

A. At the time that the NARUC Manual was written, the minimum-size method was commonly used by electric utilities in North America, hence its inclusion in the NARUC Manual, which has not been revised since 1992. Today, however, it is less used by major

electric utilities. For example, none of the Exelon electric operations use the minimum-size method.

Q. IS THE COMMON USE OF THE MINIMUM-SIZE METHOD OF CLASSIFICATION RELEVANT TO DETERMINING THE PROPER CLASSIFICATION OF DISTRIBUTION SYSTEM COSTS FOR FIRSTENERGY IN THIS PROCEEDING?

A. No. Selection of the appropriate classification method(s) for a utility's electric distribution system for costing purposes depends on the specific design and operating characteristics of the distribution system consistent with the principle of cost causation, not on whether other utilities in other jurisdiction use a specific classification method nor on whether the utility has used a specific classification method in prior proceedings. Regulatory costing is a forward-looking exercise. The only relevant question is whether the classification method reflects the cost causation inherent in the design and operation of FirstEnergy's distribution system. Again, as I explain below, the minimum-size method of classification does not reflect the design and operation of FirstEnergy's distribution system.

Q. WHAT DISTRIBUTION COSTS ARE CAUSED BY CUSTOMERS?

A. Principles of Public Utility Rates (Bonbright), the canonical regulatory rate making text, defines electric distribution customer costs as "those operating and capital costs found to vary with the number of customers."[12] Bonbright points out that the distribution system costs that satisfy this definition are "the minimum service, metering, accounting, etc. costs of connecting another customer or the savings in costs of not connecting the customer,"

[12] Principles of Public Utility Rates 1988 (Bonbright), page 490; NARUC Electric Manual, page 90.

viz., the costs of the customer equipment recorded in plant accounts 369-371 Thus, this is not an arbitrary or theory-driven definition, but rather a definition based on a practical and empirically verifiable cause – namely, the act of adding a customer to or dropping a customer from the distribution system.

Q. DOES BONBRIGHT ADDRESS THE NARUC MANUAL'S MINIMUM-SIZE AND MINIMUM-INTERCEPT CLASSIFICATION OF DISTRIBUTION COSTS?

A. Yes. Bonbright describes both methods as assuming "hypothetical" and "phantom" distribution systems that rest on the erroneous assumption that "since [the minimum system costs] vary directly with the area of the distribution system (or else with the lengths of the lines, depending on the type of distribution system), they therefore vary directly with the number of customers," which "makes no allowance for the density factor (customers per linear mile or square mile)."[13] In simpler terms, the costs of the distribution lines and line transformers for a given system will be the same if the system serves X number of customers or 2X number of customers. Electric utilities design the components of their distribution system that are upstream of the equipment required to connect a customer to the system to meet the aggregate peak demand of the customers on the system. Otherwise, the utility would not be able to deliver firm service to customers at system peak demand.

Regarding the minimum-intercept system, Bonbright adds that a systematic regression analysis found no statistical association between distribution costs and number of customers.[14] I note that I have never seen an analysis of empirical utility data that demonstrates either that distribution system costs vary with the number of customers on a

[13] Bonbright, page 491.
[14] Bonbright, page 491.

distribution system or that there is a statistically significant correlation between distribution system costs and the number of customers.

Q. DOES FIRSTENERGY DESIGN AND OPERATE ITS DISTRIBUTION SYSTEM TO MEET PEAK LOAD?

A. Yes. Every regulated utility that offers firm electric service to its customers does and must design and operate the components of its distribution system that are upstream of the customer equipment to meet the peak load. Otherwise, the utility would not be able to provide firm service at peak load.

Q. HOW DOES THE NARUC MANUAL DEFINE DISTRIBUTION CUSTOMER COSTS?

A. Consistent with Bonbright, the NARUC Manual defines "the customer component of distribution facilities [as] that portion of costs which varies with the number of customers." The NARUC Manual then immediately follows, however, with a *non-sequitur*, viz., the unsupported assertion that "[t]hus, the number of poles, conductors, transformers, services and meters are directly related to the number of customers on the utility's system" (emphasis added).[15] Note that this is exactly the same assumption debunked by Bonbright above. The number of customers directly causes the amount and costs of the customer equipment, not the amount and costs of the distribution system's overhead and underground wires, supporting structures and line transformers. In this regard, the NARUC Manual is simply wrong. The amounts and costs of the facilities recorded in distribution overhead and underground lines and line transformers are not "directly related to the

[15] NARUC Electric Manual, page 90.

number of customers." They are rather directly related to the aggregate peak load or demand of customers.

Q. DOES THE NARUC MANUAL PROVIDE ANY EXPLANATION OR DEMONSTRATION THAT A PORTION OF DISTRIBUTION COSTS VARIES WITH OR IS CAUSED BY THE NUMBER OF CUSTOMERS?

A. No. As I explained above, the NARUC Manual simply assumes without explanation or demonstration that the minimum-size method and the minimum-intercept method identify and quantify a portion of distribution costs that varies with or is caused by the number of customers.

Q. HAS FIRSTENERGY PROVIDED ANY EMPIRICAL QUANTITATIVE EVIDENCE THAT ANY PORTION OF ITS DISTRIBUTION SYSTEM COSTS VARY WITH THE NUMBER OF CUSTOMERS?

A. No. Nor has FirstEnergy provided any evidence to support (1) its reliance on the NARUC Manual's minimum-size classification, contrary to Bonbright's demonstration that minimum-size classification contradicts the principle of cost causation which underlies all utility cost studies and (2) its assertion that customers are a cost factor in the planning, design and operation of its account 364-368 distribution assets.

Q. WHAT DO YOU CONCLUDE REGARDING FIRSTENERGY'S USE OF THE MINIMUM-SIZE SYSTEM METHOD TO CLASSIFY A PORTION OF ITS DISTRIBUTION COSTS AS CUSTOMER-RELATED AND ALLOCATE THOSE COSTS TO CUSTOMER CLASSES BASED ON THE NUMBER OF CUSTOMERS?

A. As explained above, there is no basis in theory, system design and operation practice, or empirical quantitative data to support FirstEnergy's use of the minimum-size system method to classify as customer-related any portion of its distribution costs. FirstEnergy's distribution costs do not vary with the number of customers – additions and deletions of customers do not cause those costs to increase or decrease. Thus, I conclude that the Company's distribution costs in plant accounts 364-360 are properly classified as 100 percent demand-related and properly allocated to classes using FirstEnergy's demand allocation factors.

Q. WHAT IS THE IMPACT ON FIRSTENERGY'S COSS CUSTOMER CLASSES OF ELIMINATING THE MINIMUM-SIZE CLASSIFICATION OF FIRSTENERGY'S DISTRIBUTION OVERHEAD AND UNDERGROUND LINES AND LINE TRANSFORMER COSTS?

A. As a general matter, minimum-size classification of distribution costs increases the costs allocated to rate classes with large numbers of customers and decreases costs allocated to rate classes with small numbers of customers. Because the number of customers in a rate class is not a cause or driver of distribution costs, minimum-size classification over allocates costs to rate classes with large numbers of customers and under allocates costs to rate classes with small numbers of customers The effect of this misallocation of costs can

be seen by comparing the class rates of return and relative rates of return calculated by FirstEnergy's COSSs to those calculated by eliminating minimum-size classification from FirstEnergy's COSSs.

Q. WHAT IS THE PURPOSE OF THE RELATIVE RATE OF RETURN METRIC?

A. Relative rate of return is the commonly used metric by which fair cost apportionment is measured and evaluated. FirstEnergy's COSSs calculate the overall rate of return for FirstEnergy's rate districts' electric systems and the rates of return for each class but do not calculate relative rates of return. I have calculated class relative rates of return by dividing each class rate of return by the overall rate of return. A class relative rate of return of 1.00 indicates that the class is earning the overall rate of return. A class relative rate of return less than 1.00 indicates that the class is underearning or under recovering its cost of service, i.e., the revenue generated by rates is not covering the full cost of service to the class. A class relative rate of return greater than 1.00 indicates that the class is overearning or over recovering its cost of service, i.e., the revenue generated by rates is more than covering the full cost of service to the class. Relative rates of return are used as a guide for allocating the revenue increase to classes so as to move each class closer to full recovery. Tables 2-5 below compare the class rates of return and relative rates of return under FirstEnergy's four rate district COSSs with and without minimum-size classification.

Table 2 - Met-Ed Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class Under Current Rates – With and Without Minimum-Size Classification				
Customer Class	**With Minimum System[16]**		**Without Minimum System[17]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	2.37%	0.655	6.46%	1.785
General Service Volunteer	21.25%	5.870	7.31%	2.020
General Service Small	-1.85%	-0.510	16.30%	4.503
General Service Medium	10.69%	2.954	-2.45%	-0.677
General Service Large	9.82%	2.713	-5.48%	-1.515
General Service Primary	8.54%	2.359	7.09%	1.960
General Service Transmission Power	24.34%	6.725	7.42%	2.051
Borderline Service	-4.99%	-1.379	-0.71%	-0.196
Municipal Streetlighting Service	16.33%	4.511	0.02%	0.005
Private Outdoor Lighting	0.27%	0.075	3.85%	1.064
Streetlighting Service	3.36%	0.930	0.98%	0.271
Total	3.62%	1.000	3.62%	1.000

The Met-Ed COSS without minimum-size classification, which allocates distribution costs on demand, results in higher rates of return and relative rates of return for the Residential, GSS, BRD and POL customer classes and lower rates of return and relative rates of return for the remaining customer classes. The relative rates of return of the Residential, GSV,

[16] Exhibit KRP-2.
[17] Exhibit KRP-3.

GSS, GP, TP and POL classes are higher than 1.00 indicating that these classes are over earning under Met-Ed's current rates.

Table 3 - Penelec Rates of Return (ROR) and Relative Rates of Return (RROR)by Customer Class Under Current Rates – With and Without Minimum-Size Classification

Customer Class	With Minimum System[18]		Without Minimum System[19]	
	ROR	RROR	ROR	RROR
Residential	3.42%	0.806	9.54%	2.248
General Service Volunteer	14.23%	3.352	6.18%	1.456
General Service Small	-3.06%	-0.722	6.07%	1.429
General Service Medium	11.83%	2.787	-1.64%	-0.387
General Service Large	14.88%	3.505	-3.57%	-0.840
General Service Primary	7.33%	1.727	7.54%	1.775
General Service Transmission Power	14.81%	3.490	6.51%	1.534
Borderline Service	-8.14%	-1.917	5.28%	1.245
Municipal Streetlighting Service	17.28%	4.070	-1.68%	-0.395
Private Outdoor Lighting	6.59%	1.552	10.02%	2.360
Streetlighting Service	-9.50%	-2.237	-9.51%	-2.239
Total	4.25%	1.000	4.25%	1.000

[18] Exhibit KRP-4.
[19] Exhibit KRP-5.

The Penelec COSS without minimum-size classification, which allocates distribution costs on demand, results in higher rates of return and relative rates of return for the Residential, GSS, BRD and POL customer classes and lower rates of return and relative rates of return for the remaining customer classes. The relative rates of return of the Residential, GSV, GSS, GP, TP, BRD and POL classes are higher than 1.00 indicating that these classes are overearning under Penelec's current rates.

Table 4 – Penn Power Rates of Return (ROR) and Relative Rates of Return (RROR)by Customer Class Under Current Rates – With and Without Minimum-Size Classification				
Customer Class	**With Minimum System[20]**		**Without Minimum System[21]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	1.70%	0.691	7.21%	2.932
General Service Volunteer	11.51%	4.682	5.17%	2.105
General Service Small	-1.53%	-0.620	13.50%	5.490
General Service Medium	4.20%	1.709	-5.32%	-2.164
General Service Large	11.25%	4.577	-5.01%	-2.040
General Service Primary	0.89%	0.361	-0.21%	-0.085
General Service Transmission Power	408.42%	166.129	379.22%	154.252
Public/Non-Profit	3.25%	1.322	-2.44%	-0.991
Private Outdoor Lighting	0.63%	0.257	8.09%	3.291
Streetlighting Service	-4.07%	-1.654	-4.65%	-1.892
Total	2.46%	1.000	2.46%	1.000

The Penn Power COSS without minimum-size classification, which allocates distribution costs on demand, results in higher rates of return and relative rates of return for the Residential, GSS, and POL customer classes and lower rates of return and relative rates of return for the remaining customer classes. The relative rates of return of the Residential, GSV, GSS, TP, and POL classes are higher than 1.00 indicating that these classes are overearning under Penn Power's current rates.

[20] Exhibit KRP-6.
[21] Exhibit KRP-7.

Table 5 – West Penn Power Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class Under Current Rates – With and Without Minimum-Size Classification				
Customer Class	**With Minimum System[22]**		**Without Minimum System[23]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	2.28%	0.842	6.23%	2.298
General Service Volunteer	15.72%	5.796	6.05%	2.231
General Service Small	-4.12%	-1.518	6.73%	2.482
General Service Medium	6.69%	2.466	-2.93%	-1.080
General Service Large	13.11%	4.834	-1.93%	-0.713
General Service Primary/ Transmission Power	5.87%	2.164	2.71%	0.999
Primary Power Service - 44	122.19%	45.043	122.19%	45.043
Primary Power Service - 46	3.71%	1.369	3.71%	1.369
Private Outdoor Lighting	14.36%	5.293	24.69%	9.100
Streetlighting Service	-5.04%	-1.858	-5.28%	-1.948
Pennsylvania State University	5.75%	2.118	-5.48%	-2.020
Total	2.71%	1.000	2.71%	1.000

The West Penn Power COSS without minimum-size classification, which allocates distribution costs on demand, results in higher rates of return and relative rates of return for the Residential, GSS, and POL customer classes and lower rates of return and relative rates of return for the remaining customer classes. The relative rates of return of the

[22] Exhibit KRP-8.
[23] Exhibit KRP-9.

Residential, GSV, GSS, TP, and BRD classes are higher than 1.00 indicating that these classes are overearning under West Penn Power's current rates.

Q. HAVE YOU IDENTIFIED ANY ERRORS IN THE COST ALLOCATORS IN FIRSTENERGY'S COSS?

A. No.

Q. WHAT DO YOU CONCLUDE AND RECOMMEND REGARDING FIRSTENERGY'S COSS?

A. I conclude that FirstEnergy's rate district COSSs produce results inconsistent with the principle of cost causation, because contrary to the minimum-size method's assumption, the number of customers is neither a cause nor a driver of distribution costs. I also conclude that FirstEnergy's COSS without minimum-size classification produces results consistent with the principle of cost causation, because demand is both the cause and the driver of FirstEnergy's electric distribution system costs. I recommend that the Commission adopt the rate districts' COSSs without minimum-size classification as a guide for determining FirstEnergy's class revenue allocation and tariff rates.

E. FIRSTENERGY'S RATE DISTRICTS' CLASS REVENUE DISTRIBUTIONS

Q. HAVE YOU EXAMINED FIRSTENERGY'S RATE DISTRICTS' CLASS REVENUE DISTRIBUTIONS?

A. Yes. The testimony[24] and exhibits[25] of Timothy Lyons present FirstEnergy's class revenue responsibility distribution. Witness Lyons states that "[t]he Company believes a 10.00 percent movement to system ROR strikes an appropriate balance between moving to cost-based rates (full movement to system ROR) and addressing rate continuity considerations (uniform increase in revenues)."[26]

Q. HOW DO FIRSTENERGY'S PROPOSED CLASS REVENUE DISTRIBUTIONS IMPACT CLASS RATES OF RETURN?

A. Tables 6-9 below show the impact of FirstEnergy's proposed revenue distributions on class rates of return for FirstEnergy's four rate districts. Examination of the relative rate of return results in Tables 6-9, reveals that for each of FirstEnergy's rate districts most of the proposed class revenue requirements represent minimal movement towards relative rates of return of 1.00, leaving most classes either heavily overearning or heavily underearning measured against the relative rates of return from FirstEnergy's minimum-size COSSs.

[24] Lyons Direct, page 19 line 11 to page 23 line 4.
[25] FE PA Exhibit TSL-2 Class Cost of Service Study Met Ed (FE PA MetEd CCOS CONFIDENTIAL and PROPRIETARYxlsx), Penelec (FE PA Penelec CCOS CONFIDENTIAL and PROPRIETARYxlsx), Penn Power (FE PA PennPower CCOS CONFIDENTIAL and PROPRIETARYxlsx, West Penn (FE PA WestPenn CCOS CONFIDENTIAL and PROPRIETARYxlsx).
[26] Lyons Direct, page 22 lines 21-23: also see FE PA Exhibit TSL-2 Class Cost of Service Study Met Ed (FE PA MetEd CCOS CONFIDENTIAL and PROPRIETARYxlsx Target Revenue tab), Penelec (FE PA Penelec CCOS CONFIDENTIAL and PROPRIETARYxlsx) Target Revenue tab), Penn Power (FE PA PennPower CCOS CONFIDENTIAL and PROPRIETARYxlsx Target Revenue tab), West Penn (FE PA WestPenn CCOS CONFIDENTIAL and PROPRIETARYxlsx Target Revenue tab).

Table 6 - Met-Ed Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – COSS Compared to FirstEnergy Proposed Class Revenue Distribution				
Customer Class	**FirstEnergy COSS With Minimum System[27]**		**FirstEnergy Class Revenue Distribution[28]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	2.37%	0.655	7.01%	0.856
General Service Volunteer	21.25%	5.870	37.14%	4.535
General Service Small	-1.85%	-0.510	-0.90%	-0.110
General Service Medium	10.69%	2.954	17.40%	2.124
General Service Large	9.82%	2.713	14.16%	1.730
General Service Primary	8.54%	2.359	12.05%	1.471
General Service Transmission Power	24.34%	6.725	25.84%	3.155
Borderline Service	-4.99%	-1.379	-5.56%	-0.679
Municipal Streetlighting Service	16.33%	4.511	27.36%	3.341
Private Outdoor Lighting	0.27%	0.075	3.58%	0.437
Streetlighting Service	3.36%	0.930	10.20%	1.245
Total	3.62%	1.000	8.19%	1.000

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[27] Exhibit KRP-2.
[28] Exhibit KRP-2.

Table 7 - Penelec Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – COSS Compared to FirstEnergy Proposed Class Revenue Distribution				
Customer Class	**FirstEnergy COSS With Minimum System[29]**		**FirstEnergy Class Revenue Distribution[30]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	3.42%	0.806	7.54%	0.921
General Service Volunteer	14.23%	3.352	25.00%	3.053
General Service Small	-3.06%	-0.722	-3.02%	-0.369
General Service Medium	11.83%	2.787	18.68%	2.281
General Service Large	14.88%	3.505	21.97%	2.683
General Service Primary	7.33%	1.727	10.19%	1.244
General Service Transmission Power	14.81%	3.490	11.45%	1.398
Borderline Service	-8.14%	-1.917	-11.39%	-1.391
Municipal Streetlighting Service	17.28%	4.070	27.68%	3.379
Private Outdoor Lighting	6.59%	1.552	15.60%	1.905
Streetlighting Service	-9.50%	-2.237	-9.82%	-1.199
Total	4.25%	1.000	8.19%	1.000

[29] Exhibit KRP-4.
[30] Exhibit KRP-4.

Table 8 – Penn Power Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – COSS Compared to FirstEnergy Proposed Class Revenue Distribution				
Customer Class	**FirstEnergy COSS With Minimum System[31]**		**FirstEnergy Class Revenue Distribution[32]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	1.70%	0.691	7.93%	0.968
General Service Volunteer	11.51%	4.682	24.83%	3.032
General Service Small	-1.53%	-0.620	1.85%	0.226
General Service Medium	4.20%	1.709	8.64%	1.055
General Service Large	11.25%	4.577	18.99%	2.319
General Service Primary	0.89%	0.361	3.43%	0.418
General Service Transmission Power	408.42%	166.129	424.19%	51.793
Public/Non-Profit	3.25%	1.322	9.06%	1.106
Private Outdoor Lighting	0.63%	0.257	7.06%	0.862
Streetlighting Service	-4.07%	-1.654	-1.32%	-0.162
Total	2.46%	1.000	8.19%	1.000

[31] Exhibit KRP-3.
[32] Exhibit KRP-3.

Table 9 – West Penn Power Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – COSS Compared to FirstEnergy Proposed Class Revenue Distribution				
Customer Class	**FirstEnergy COSS With Minimum System[33]**		**FirstEnergy Class Revenue Distribution[34]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	2.28%	0.842	8.22%	1.003
General Service Volunteer	15.72%	5.796	32.09%	3.918
General Service Small	-4.12%	-1.518	-3.32%	-0.405
General Service Medium	6.69%	2.466	13.97%	1.706
General Service Large	13.11%	4.834	22.61%	2.761
General Service Primary/ Transmission Power	5.87%	2.164	3.42%	0.418
Primary Power Service - 44	122.19%	45.043	39.42%	4.813
Primary Power Service - 46	3.71%	1.369	2.49%	0.304
Private Outdoor Lighting	14.36%	5.293	28.82%	3.519
Streetlighting Service	-5.04%	-1.858	-4.20%	-0.513
Pennsylvania State University	5.75%	2.118	8.16%	0.996
Total	2.71%	1.000	8.19%	1.000

Q. DO YOU AGREE WITH FIRSTENERGY'S PROPOSED CLASS REVENUE DISTRIBUTIONS?

A. No, for two reasons. First, they are based on FirstEnergy's minimum-size COSSs which, as I explained above, is not consistent with or reflective of actual cost causation. Second,

[33] Exhibit KRP-5
[34] Exhibit KRP-5

they do not reflect the overall revenue requirement and rate of return presented in OCA witness Mugrace's testimony.[35]

Q. Have you calculated class revenue requirements based on OCA witness Mugrace's overall revenue requirement and FirstEnergy's COSSs without minimum-size calculation?

A. Yes. Tables 10-13 and 14-17 below compare for each of FirstEnergy's rate districts, respectively, (1) the rates of return for FirstEnergy's proposed class revenue distributions with those for OCA's recommended class revenue distributions and (2) FirstEnergy's proposed class revenue distributions and precent increases with those that result from OCA witness Mugrace's overall revenue requirements and FirstEnergy's COSSs without minimum-size customer classification. I have developed the OCA recommended class revenue increase distributions and rates of return in Tables 10-17 by moving each of the rate districts' classes fifty percent toward full cost recovery parity as measured by relative rate of return, i.e., halfway to a relative rate of return of 1.00. The OCA's rate district class revenues in Tables 13-14 have been adjusted consistent with OCA's policy of not proposing reductions to class revenues, in other words, no class should get a rate decrease when all other classes' rates are going up.

Q. WHAT DO TABLES 10-13 SHOW?

A. Examination of Tables 10-13 reveals that even fifty percent movement toward parity leaves most of FirstEnergy's rate district classes significantly either overearning or underearning,

[35] Direct Testimony of Dante Mugrace, Schedule DM-1.

demonstrating how far out of alignment with cost causation FirstEnergy's tariff rates are and will continue to be. This is in contrast to the mostly minimal movements toward parity proposed by FirstEnergy as shown in Tables 6-9 above.

Table 10 – Met-Ed Class Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – FirstEnergy Proposed Class Revenue Distributions compared to OCA Recommended Class Revenue Distributions

Customer Class	FirstEnergy Proposed[36]		OCA Recommended[37]	
	ROR	RROR	ROR	RROR
Residential	7.01%	0.856	9.71%	1.393
General Service Volunteer	37.14%	4.535	10.53%	1.510
General Service Small	-0.90%	-0.110	19.18%	2.752
General Service Medium	17.40%	2.124	1.13%	0.162
General Service Large	14.16%	1.730	-1.79%	-0.257
General Service Primary	12.05%	1.471	10.31%	1.480
General Service Transmission Power	25.84%	3.155	10.63%	1.525
Borderline Service	-5.56%	-0.679	2.80%	0.402
Municipal Streetlighting Service	27.36%	3.341	3.50%	0.503
Private Outdoor Lighting	3.58%	0.437	7.19%	1.032
Streetlighting Service	10.20%	1.245	4.43%	0.636
Total	8.19%	1.000	6.97%	1.000

[36] Exhibit KRP-2.
[37] Exhibit KRP-3.

Table 11 – Penelec Class Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – FirstEnergy Proposed Class Revenue Distributions compared to OCA Recommended Class Revenue Distributions				
Customer Class	**FirstEnergy Proposed[38]**		**OCA Recommended[39]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	7.54%	0.921	11.32%	1.624
General Service Volunteer	25.00%	3.053	8.56%	1.228
General Service Small	-3.02%	-0.369	8.46%	1.214
General Service Medium	18.68%	2.281	2.14%	0.306
General Service Large	21.97%	2.683	0.56%	0.080
General Service Primary	10.19%	1.244	9.67%	1.388
General Service Transmission Power	11.45%	1.398	8.83%	1.267
Borderline Service	-11.39%	-1.391	7.82%	1.122
Municipal Streetlighting Service	27.68%	3.379	2.11%	0.303
Private Outdoor Lighting	15.60%	1.905	11.71%	1.680
Streetlighting Service	-9.82%	-1.199	-4.32%	-0.620
Total	8.19%	1.000	6.97%	1.000

[38] Exhibit KRP-4.
[39] Exhibit KRP-5.

Table 12 – Penn Power Class Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – FirstEnergy Proposed Class Revenue Distributions compared to OCA Recommended Class Revenue Distributions				
Customer Class	**FirstEnergy Proposed[40]**		**OCA Recommended[41]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	7.93%	0.968	13.70%	1.966
General Service Volunteer	24.83%	3.032	10.82%	1.552
General Service Small	1.85%	0.226	22.62%	3.245
General Service Medium	8.64%	1.055	-4.06%	-0.582
General Service Large	18.99%	2.319	-3.62%	-0.520
General Service Primary	3.43%	0.418	3.19%	0.457
General Service Transmission Power	424.19%	51.793	541.05%	77.626
Public/Non-Profit	9.06%	1.106	0.03%	0.005
Private Outdoor Lighting	7.06%	0.862	14.96%	2.146
Streetlighting Service	-1.32%	-0.162	-3.11%	-0.446
Residential	8.19%	1.000	13.70%	1.966
Total	7.93%	0.968	6.97%	1.000

[40] Exhibit KRP-6.
[41] Exhibit KRP-7.

Table 13 – West Penn Power Class Rates of Return (ROR) and Relative Rates of Return (RROR) by Customer Class – FirstEnergy Proposed Class Revenue Distributions compared to OCA Recommended Class Revenue Distributions				
Customer Class	**FirstEnergy Proposed[42]**		**OCA Recommended[43]**	
	ROR	**RROR**	**ROR**	**RROR**
Residential	8.22%	1.003	11.49%	1.649
General Service Volunteer	32.09%	3.918	11.26%	1.615
General Service Small	-3.32%	-0.405	12.14%	1.741
General Service Medium	13.97%	1.706	-0.28%	-0.040
General Service Large	22.61%	2.761	1.00%	0.144
General Service Primary/ Transmission Power	3.42%	0.418	6.97%	0.999
Primary Power - 44	39.42%	4.813	160.46%	23.021
Primary Power - 46	2.49%	0.304	8.25%	1.184
Private Outdoor Lighting	28.82%	3.519	35.20%	5.050
Streetlighting Service	-4.20%	-0.513	-3.30%	-0.474
Pennsylvania State University	8.16%	0.996	-3.56%	-0.510
Total	8.19%	1.000	6.97%	1.000

Q. WHAT DO TABLES 14-17 SHOW?

A. Tables 14-17 compare OCA's recommended class revenue increases to those proposed by FirstEnergy. OCA's recommended class revenue increases are considerably reduced from those proposed by FirstEnergy primarily as a result of OCA witness Mugrace's recommendation of a considerable reduction in FirstEnergy's overall revenue requirement.

[42] Exhibit KRP-8.
[43] Exhibit KRP-9.

The changes in the distribution of class revenue percent increases compared to those of FirstEnergy are a result of taking the results of the rate districts' non-minimum-size COSSs as a guide and applying a uniform fifty percent movement toward parity. Also, as I noted above, The OCA rate district class revenues in Tables 13-14 have been adjusted consistent with OCA's policy of not proposing reductions to class revenues.

Table 14 – Met-Ed Class Revenue Increase Distributions and Class Percent Increases – FirstEnergy Proposed compared to OCA Recommended

Customer Class	FirstEnergy Proposed[44]		OCA Recommended[45]	
	Revenue Distribution ($000)	Percent Increase	Revenue Distribution ($000)	Percent Increase
Residential	115,168	32.7%	3,894	1.1%
General Service Volunteer	446	78.7%	7	1.2%
General Service Small	(1,016)	-6.0%	234	1.4%
General Service Medium	34,733	60.9%	179	0.3%
General Service Large	6,443	60.5%	0	0.0%
General Service Primary	12,797	48.5%	378	1.4%
General Service Transmission Power	5,568	73.3%	135	1.8%
Borderline Service	(24)	-53.7%	0	0.6%
Municipal Streetlighting Service	116	73.4%	1	0.7%
Private Outdoor Lighting	124	19.2%	6	0.9%
Streetlighting Service	2,354	36.2%	39	0.6%
Total	176,708	36.9%	4,874	1.0%

[44] Exhibit KRP-2.
[45] Exhibit KRP-3.

Table 15 – Penelec Class Revenue Increase Distributions and Class Percent Increases – FirstEnergy Proposed compared to OCA Recommended				
Customer Class	**FirstEnergy Proposed[46]**		**OCA Recommended[47]**	
	Revenue Distribution ($000)	**Percent Increase**	**Revenue Distribution ($000)**	**Percent Increase**
Residential	122,284	37.2%	3,981	1.2%
General Service Volunteer	673	67.2%	11	1.1%
General Service Small	(4,869)	-25.6%	181	1.0%
General Service Medium	45,126	61.8%	445	0.6%
General Service Large	12,098	69.7%	40	0.2%
General Service Primary	8,647	44.2%	260	1.3%
General Service Transmission Power	4,712	51.3%	174	1.9%
Borderline Service	(61)	-386.9%	0	1.1%
Municipal Streetlighting Service	629	73.8%	5	0.6%
Private Outdoor Lighting	1,423	43.7%	28	0.9%
Streetlighting Service	(4,825)	-65.3%	0	0.0%
Total	185,837	38.7%	5,126	1.1%

1

[46] Exhibit KRP-4.

[47] Exhibit KRP-5.

Table 16 – Penn Power Class Revenue Increase Distributions and Class Percent Increases – FirstEnergy Proposed compared to OCA Recommended				
Customer Class	**FirstEnergy Proposed[48]**		**OCA Recommended[49]**	
	Revenue Distribution ($000)	**Percent Increase**	**Revenue Distribution ($000)**	**Percent Increase**
Residential	38,048	39.6%	1,230	1.3%
General Service Volunteer	78	76.2%	1	1.2%
General Service Small	614	11.7%	80	1.5%
General Service Medium	6,623	49.5%	0	0.0%
General Service Large	3,226	80.1%	0	0.0%
General Service Primary	925	21.8%	25	0.6%
General Service Transmission Power	3,170	113.1%	115	4.1%
Public/Non-Profit	37	46.5%	0	0.0%
Private Outdoor Lighting	192	33.9%	7	1.2%
Streetlighting Service	(92)	-9.2%	0	0.0%
Total	52,821	41.4%	1,457	1.1%

[48] Exhibit KRP-6.

[49] Exhibit KRP-7.

Table 17 – West Penn Power Class Revenue Increase Distributions and Class Percent Increases – FirstEnergy Proposed compared to OCA Recommended				
Customer Class	**FirstEnergy Proposed[50]**		**OCA Recommended[51]**	
	Revenue Distribution ($000)	**Percent Increase**	**Revenue Distribution ($000)**	**Percent Increase**
Residential	124,982	40.39%	4,174	1.3%
General Service Volunteer	651	80.38%	12	1.4%
General Service Small	(4,430)	-30.37%	179	1.2%
General Service Medium	31,162	55.54%	0	0.0%
General Service Large	14,994	69.57%	60	0.3%
General Service Primary/ Transmission Power	2,143	18.24%	168	1.4%
Primary Power - 44	23	67.54%	3	8.7%
Primary Power - 46	397	13.79%	42	1.4%
Private Outdoor Lighting	3,445	80.04%	93	2.2%
Streetlighting Service	(2,238)	-37.03%	0	0.0%
Pennsylvania State University	384	37.75%	0	0.0%
Total	171,513	40.03%	4,731	1.1%

Q. WHAT DO YOU CONCLUDE AND RECOMMEND REGARDING FIRSTENERGY'S CLASS REVENUE INCREASE DISTRIBUTIONS?

A. I conclude that FirstEnergy's proposed rate district class revenue increase distributions should be rejected because (1) they are based on rate district COSSs that are inconsistent with the principle of cost causation and (2) even on that basis they do not produce consistent

[50] Exhibit KRP-8.
[51] Exhibit KRP-9.

movement towards parity in cost recovery. I recommend that the Commission accept the non-minimum system COSSs class revenue increase distributions because they are based on COSSs that are consistent with the principle of cost causation and (2) produce consistent movement towards parity in cost recovery.

Q. DO YOU HAVE A SCALE BACK PROPOSAL?

A. Yes. I recommend that, if the Commission does not adopt the OCA's proposed overall revenue increase, for whatever revenue increase is ultimately adopted by the Commission, the revenue increase be scaled back and allocated based on the rate district class revenue increase distribution percentages in Tables 13-17.

F. RATE DISTRICT CLASS TARIFF RATES

Q. WHAT ARE FIRSTENERGY'S PROPOSED TARIFF RATES?

A. FirstEnergy's proposed tariff rates for each rate district are shown in Exhibit TSL-2.[52] The tariff rates are based on the FirstEnergy rate district class revenue distributions in Tables 13-17 above.

Q. DO YOU AGREE WITH FIRSTENERGY'S PROPOSED RATE DISTRICT CLASS TARIFF RATES?

A. No. The tariff rates for all FirstEnergy's rate classes should be increased consistent with the OCA rate district class revenue distributions in Tables 13-17 above.

[52] Exhibit FE PA TSl-2 Class Cost of Service Study Met Ed (FE PA MetEd CCOS CONFIDENTIAL and PROPRIETARYxlsx), Penelec (FE PA Penelec CCOS CONFIDENTIAL and PROPRIETARYxlsx), Penn Power (FE PA PennPower CCOS CONFIDENTIAL and PROPRIETARYxlsx, West Penn (FE PA WestPenn CCOS CONFIDENTIAL and PROPRIETARYxlsx).

Q. WHAT SPECIFIC RATES DOES FIRSTENERGY PROPOSE FOR RESIDENTIAL CUSTOMERS?

A. As Shown in Table 18 below, FirstEnergy proposes to increase all rate districts' Residential customer charges to $14.50 with the remainder of the revenue increase to be recovered through the volumetric kWh distribution charge.

Table 18 – Comparison of Current and Proposed Residential Customer Charges[53]

Rate District	Current Customer Charge	Proposed Customer Charge	Percent Increase
Met-Ed	$11.25	$14.50	22.4%
Penelec	$11.25	$14.50	22.4%
Penn Power	$11.00	$14.50	31.8%
West Penn	$7.44	$11.50	54.6%

Q. WHAT IS YOUR RECOMMENDATION REGARDING THE RESIDENTIAL CUSTOMER CHARGES?

A. As shown in Table 18, FirstEnergy's proposed Residential customer charges represent increases ranging from 22% to 54.6% over the current charges, which represent significant and unacceptable rate shock to no discernible ratemaking benefit. A fixed monthly customer charge sends no real actionable price signal to Residential customers. No residential customer chooses either to take service or to take a given amount of service based on the customer charge. Thus, the ratemaking principle of efficiency provides no basis to set the customer charge at one level or another. On the other hand, if the Residential customer charge is left unchanged, the increased revenue approved in this

[53] Exhibit FE PA TSl-2 Class Cost of Service Study Met Ed (FE PA MetEd CCOS CONFIDENTIAL and PROPRIETARYxlsx RS tab), Penelec (FE PA Penelec CCOS CONFIDENTIAL and PROPRIETARYxlsx RS tab), Penn Power (FE PA PennPower CCOS CONFIDENTIAL and PROPRIETARYxlsx RS tab), West Penn (FE PA WestPenn CCOS CONFIDENTIAL and PROPRIETARYxlsx RS tab).

proceeding will be recovered through the volumetric distribution charge, where it will definitely send a real actionable price signal regarding conservation and customers' control over their monthly bills. Placing all of the increase in the volumetric distribution charge will provide Residential customers with both (1) an increased incentive to engage in conservation and (2) the ability to exercise control over a larger portion of their monthly electric distribution bill. Finally, OCA witness Colton details in his testimony the extraordinary deleterious impacts that any increase in the customer charge will have on low-income Residential customers.[54] For all these reasons I recommend that the Residential customer charges remain at their current level as shown in Table 17 above.

Q. HAS THE COMMISSION RECENTLY ISSUED ANY DECISIONS AS TO INCREASED CUSTOMER CHARGES?

A. Yes. Columbia proposed an increase in its existing monthly customer charge in Docket No. R-2020-3018835. In that proceeding the Administrative Law Judge (ALJ) found that Columbia's proposed increase in the Residential customer charge was contrary to the Commission's goal of encouraging customers to conserve energy and denied the Company's requested increase in the monthly customer charge. The Commission adopted the ALJ's decision regarding the Residential customer charge.[55]

[54] Direct testimony of Roger D. Colton (Statement No. 5), pages 73-83.
[55] *Pa. P.U.C. v. Columbia Gas of Pennsylvania, Inc.*, Docket No. R-2020-3018835, Order at 264-65 (Feb. 19, 2021).

G. FIRSTENERGY'S PROPOSED LED LIGHT CONVERSION PROGRAM

Q. WHAT IS FIRSTENERGY'S PROPOSED LED LIGHT CONVERSION PROGRAM?

A. FirstEnergy witness Kehl describes the LED conversion program.[56] FirstEnergy proposes to replace 85,365 non-LED streetlights across its four rate districts,[57] at a rate of approximately 17,000 streetlight conversions per year beginning in late first quarter or early second quarter 2025.[58] At that rate of non-LED streetlight replacement the conversion program would run for approximately five years ending in the first or second quarter of 2030. Outdoor area non-LED lights are not part of the conversion program and would be undertaken only at the request of the customer.[59]

Q. HOW DOES FIRSTENERGY PROPOSE TO RECOVER THE COSTS OF THE LED STREETLIGHT CONVERSION PROGRAM?

A. FirstEnergy proposes to recover the cost of the conversion program through a regulatory asset to be amortized at a rate of $9,000,000 over five years, which regulatory asset is calculated as the net asset value of the non-LED streetlights to be converted ($46,702,559 as of December 2023).[60] FirstEnergy states that the expenses and costs will be monitored and trued up, applied in the next base rate case, beginning with the effective date of this rate case.[61] I note that treated as an amortization in base rates the recovery of the regulatory

[56] Kehl Direct, page 10 line 5 to pager 14 line 12.
[57] Kehl Direct, page 9 Table 18.
[58] Kehl Direct, page 10 lines 10-12.
[59] Kehl Direct, page 13 line 17 to page 14 line
[60] Kehl Direct, page 11 lines 16-18 and Table 21.
[61] Kehl Direct, page 11 line 18 to page 12 line 2; FirstEnergy response to OCA DR 13-12.

asset would begin upon the effective date of the tariff rates in this proceeding – well before the conversion program is scheduled to begin. This would have ratepayers paying for replacements before they happen and a consistent rate over 5 years, but without any correlation to when the Company incurs the cost.

Q. WHAT ARE THE BENEFITS TO RATEPAYERS OF THE LED STREETLIGHT CONVERSION PROGRAM/

A. FirstEnergy claims that there are three benefits to ratepayers: (1) a reduction in kilowatt-hour consumption due to the greater efficiency of LED streetlights versus non-LED streetlights, (2) a reduction in carbon dioxide due to lower kilowatt-hour consumption, and (3) a reduction in kW capacity required for FirstEnergy's winter peak.[62]

Q. WHAT IS YOUR ASSESSMENT OF FIRSTENERGY'S LED CONVERSION PROGRAM.

A. In summary, I agree that FirstEnergy's LED conversion program is likely to provide benefits to FirstEnergy's Pennsylvania ratepayers, but I disagree that FirstEnergy's proposed amortization of a net asset value asset regulatory asset recovers the costs of the program from ratepayers transparently, concurrent with the conversion program, and equitably reflecting the benefits that will be received by FirstEnergy's ratepayers.

[62] FirstEnergy response to OCA DR 11-2.

Q. WHY DOES AMORTIZATION OF A REGULATORY ASSET NOT RECOVER FROM FIRSTENERGY'S RATEPAYERS THE COSTS OF THE PROGRAM TRANSPARENTLY, CONCURRENTLY WITH THE CONVERSION PROGRAM AND EQUITABLY REFLECT THE BENEFITS TO BE RECEIVED BY FIRSTENERGY'S RATEPAYERS?

A. Under amortization of the regulatory asset, the amount of the cost recovery will be hidden in all of FirstEnergy's tariff rate schedules approved in this proceeding. Also as I noted above, recovery will begin prior to implementation of the program thereby failing to synchronize recovery of cost with receipt of benefit. Most importantly, the cost recovery will not reflect the fact that notionally one third of the benefits, viz, the reduction in consumption and consequent reduction in electricity billing, will accrue only to the ratepayers under the streetlight tariff schedules.

Q. WHAT RECOVERY MECHANISM DO YOU PROPOSE?

A. I propose a surcharge mechanism that would make the recovery transparent to ratepayers, properly synchronizing program costs with receipt of benefits, and then distribute the cost recovery in a notionally equitable manner. The surcharge would be structured as follows.

- An annual regulatory asset recovery would be calculated assuming five years for recovery and based on the net asset value of the non-LED lights to be replaced as of the month prior to inception of the conversion program.
- Two kilowatt-hour surcharges would be calculated and appear as separately identifiable bill items. The first would be based on one third of the annual regulatory asset and applicable only to FirstEnergy's rate district's streetlighting

tariff schedules. The second would be based on the remaining two thirds of the annual regulatory asset and applicable to all FirstEnergy's tariff schedules.

- FirstEnergy would monitor and true-up the surcharges on an annual basis.
- The surcharges would expire when the full amount of the regulatory asset has been recovered.

In this way, the recovery of the regulatory asset will be transparent, synchronized with the implementation of the conversion program, and equitably recovered from ratepayers.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, I reserve the right to supplement this testimony if further information is provided by FirstEnergy.

Exhibit KRP-1

KARL RICHARD PAVLOVIC, Ph.D.

Education

Purdue University – MA and Ph.D. in Philosophy

Karl-Ruprecht Universität, Heidelberg, Germany – graduate study

Yale University – BA in Philosophy

Positions

Senior Consultant – PCMG and Associates	2015-Present
Senior Consultant – Snavely King Majoros and Associates	2010-2014
Director – FTI Consulting	2008-2010
President – DOXA, Inc	1994-2008
Partner – Snavely King and Associates	1983-1994
Assistant Professor – University of Florida-Gainesville	1978-1983

Professional Experience

Dr. Pavlovic provides clients with economic and policy analyses of commercial operations and expert testimony in support of litigation, negotiation and strategic planning. His analyses and testimony are distinguished by systematic articulation and testing of assumptions, thorough evaluation of data, innovative application of statistical tools and economic principles, and clarity and precision of presentation. Dr. Pavlovic has provided expert testimony on the operations, costs and revenues of gas and electric utilities, the impacts of restructuring wholesale and retail electric markets, effects of mergers, the operation and competitiveness of petroleum and electric markets, the market valuation of crude oil, electric and gas reliability, and the performance of energy efficiency, renewable energy, and peak reduction programs.

Major projects directed by Dr. Pavlovic have included: analytical assistance to counsel and testimony on all aspects of the restructuring of wholesale and retail electric markets in the Eastern Interconnection; technical representation of the District of Columbia People's Counsel on the DC PSC's Pepco Productivity Improvement Working Group and various PJM working groups; impact evaluation study of pilot energy efficiency and renewable energy programs in the District of Columbia; analysis of petroleum markets, expert testimony, and coordination of technical testimony in the Trans-Alaska Pipeline quality bank litigation; Independent Technical Review of the economic models used by the US Army Corps of Engineers for the Ohio River System Investment Plan; assistance to a major independent telephone company in the formulation and implementation of corporate strategic plans, applications for long-distance authority, and settlement negotiations with major domestic and foreign carriers.

By education and professional experience Dr. Pavlovic has expertise in formal and mathematical logic, statistics, economics, financial analysis, econometrics, and computer modeling. With 33 years' experience as a consultant and expert witness, Dr. Pavlovic has in-depth knowledge of

commercial and industrial operations in the energy, transportation, and telecommunications industries and is familiar with a wide range of experimental and investigative methods in science and engineering.

Regulatory Projects and Appearances

1. In re: the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Utility Service in North Dakota (2024) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
   ND PSC Case No. PU-20-441

2. In re: 2023 Gas System Enhancement Program Plan Filings for the Commonwealth's Natural Gas Distribution Companies (2024) - (Appearance: cost and project compliance with tariff on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket Nos. D.P.U. 23-GSEP-01 to 23-GSEP-06

3. In re: the Application of Northern States Power Company for Advance Determination of Prudence – 345kV Big Stone to Sherburne (2024) - (Appearance: need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
   ND PSC Case No. PU-23-329

4. Pennsylvania Office of Consumer Advocate: Monitor, Review and Report on Electric and Natural Gas Filings to the FERC (2024)
   Federal Energy Regulatory Agency Dockets

5. In re: Petition of Veolia Water New Jersey, Inc. for an Increase in Rates for Water Service and Other Tariff Changes (2023) - (Appearance: cost of service and rate design on behalf of the New Jersey Rate Counsel)
   NJ BPU Docket No. WR23110790

6. In re: the Application of Northern States Power Company for Advance Determination of Prudence – Brookings County to Lyon County and Helena to Hampton 345 kV Second Circuit (2023) - (Appearance: need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
   ND PSC Case No. PU-23-295

7. In re: the Application of Northern States Power Company for Advance Determination of Prudence - Sherburne County 345 kV Transmission Line (2023) - (Appearance: need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
   ND PSC Case No. PU-23-142

8. In re: Petition of Middlesex Water Company for an Increase in Rates for Water Service and Other Tariff Changes (2023) - (Appearance: cost of service and rate design on behalf of the Township of East Brunswick, New Jersey)
   NJ BPU Docket No. WR23050292

9. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2022 Gas System Enhancement Plan Reconciliation Filing (2023) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 23-GREC-06

10. In re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy for Approval of its 2022 Gas System Enhancement Plan Reconciliation Filing (2023) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 23-GREC-05

11. In re: Petition of Berkshire Gas Company for Approval of its 2022 Gas System Enhancement Plan Reconciliation Filing (2023) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
   MA Department of Public Utilities Docket No. D.P.U. 23-GREC-02

12. In re: Pittsburgh Water and Sewer Authority General Base Rate Increase Filing (2023) – (Appearance: gas and electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
   PA Public Utility Commission Docket Nos. R-2023-3039920 et al

13. In re: UGI Electric Company General Base Rate Increase Filing (2023) – (Appearance: electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
   PA Public Utility Commission Docket Nos. R-2022-3037368

14. In re: Application of Hawaii Water Service Company, Inc. for Approval of a General Rate Increase for its Pukalani Wastewater Diviion and Certain Tariff Changes (2023) – (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
   HI Public Utilities Commission Docket No. 2022-0186

15. In re: Application of Lanai Water Company, Inc. for Review and Approval of Rate Increases; Revised Rate Schedules; and Changes to its Tariff (2023) – (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
   HI Public Utilities Commission Docket No. 2022-0233

16. In re: Application of Southern Maryland Electric Cooperative, Inc., for Authority to Revise Its Rates and Charges for Electric Service and Certain Rate Design Changes (2023) – (Appearance: cost of service and rate design on behalf of the Maryland Office of the People's Counsel)
    MD PSC Case No. 9688

17. In re: Application of San Diego Gas & Electric Company for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2023 (2022) – (Appearance: business risk and cost of equity on behalf of Utility Consumers' Action Network)
    CA Public Utilities Commission Application 22-04-012

18. In re: Valley Energy, Inc. General Base Rate Increase Filing (2022) – (Appearance: gas cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    PA Public Utility Commission Docket Nos. R-2022-3032300

19. In re: Citizens' Electric Company General Base Rate Increase Filing (2022) – (Appearance: electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    PA Public Utility Commission Docket Nos. R-2022-3032369

20. In re: PECO Energy Company (Gas Division) General Base Rate Increase Filing (2022) – (Appearance: gas and electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    PA Public Utility Commission Docket Nos. R-2022-3031113

21. In re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy for Approval of its 2021 Gas System Enhancement Plan Reconciliation Filing (2022) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 22-GREC-05

22. In re: Petition of Liberty Utilities (New England Natural Gas Company Corp.) d/b/a Liberty for Approval of its 2021 Gas System Enhancement Plan Reconciliation Filing (2022) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 22-GREC-04

23. In re: Petition of Berkshire Gas Company for Approval of its 2021 Gas System Enhancement Plan Reconciliation Filing (2022) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 22-GREC-02

24. In re: Nova Scotia Power 2022-2024 General Rate Application (2022) - (Appearance: cost of service on behalf of the Nova Scotia Utility and Review Board)
    NS UARB M10431

25. In re: the Application of Northern States Power Company for Authority to Increase Rates for Natural Gas Service in North Dakota (2021) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
    ND PSC Case No. PU-20-441

26. In re: Application of San Diego Gas & Electric Company for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2022 and to Reset the Annual Cost of Capital Mechanism (2021) – (Appearance: wildfire risk accounting and ratemaking on behalf of Utility Consumers' Action Network)
    CA Public Utilities Commission Application 21-08-014

27. In re: Petition of HPBS, Inc. for review and approval of Central Scheduling System (CSS) charge increase and revised CSS schedule (2021) – (Appearance: rate design on behalf of the Hawaii Department of Commerce and Consumer Affairs)
    HI DCCA Docket No. PTP-2021-001

28. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 21-GREC-06

29. In re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 21-GREC-05

30. In re: Petition of Berkshire Gas Company for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 20-GREC-02

31. In re: the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota (2021) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
    ND PSC Case No. PU-20-441

32. In re: Pike County Light & Power Company 2020 General Base Rate Increase Filing – (Appearance: gas and electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    PA Public Utility Commission Docket Nos. R-2020-3022134 and R-2020-3022135

33. In re: Young Brothers LLC's Application for Approval of a New Cost of Service Model (2020) – (Appearance: cost of service on behalf of the Hawaii Division of Consumer Advocacy)
    HI Public Utilities Commission Docket No. 2020-0135

34. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 20-GREC-06

35. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 20-GREC-05

36. In re: Petition of Berkshire Gas Company for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 20-GREC-02

37. In re: Pittsburgh Water and Sewer Authority 2020 General Base Rate Increases 2020 – (Appearance: multi-year rate plan and performance-based ratemaking on behalf of the Pennsylvania Office of Consumer Advocate)
    PA Public Utility Commission Docket Nos. R-2020-3017970 and R-2020-3017951

38. In re: Commonwealth Edison Company Petition for approval of a Revision to Integrated Distribution Company Implementation Plan Creation of Rate Residential Time of Use Pricing Pilot ("Rate RTOUP") – On Rehearing (2020) – (Appearance: price signal and customer response on behalf of the Illinois Attorney General)
    IL Commerce Commission Docket Nos. 18-1725/18-1824

39. In re: Hawaii Electric Company, Inc. Application for Approval of a General Rate Increase and Revised Rate Schedules and Rules (2019) - (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
    HI Public Utilities Commission Docket No. 2019-0085

40. In re: Application of San Diego Gas & Electric Company for Authority to: (i) Adjust its Authorized Return on Common Equity, (ii) Adjust its Authorized Embedded Costs of Debt and Preferred Stock, (iii) Adjust its Authorized Capital Structure; (iv) Increase its Overall Rate of Return, (v) Modify its Adopted Cost of Capital Mechanism Structure, and (vi) Revise its Electric Distribution and Gas Rates Accordingly, and for Related Substantive and Procedural Relief (2019) – (Appearance: wildfire risk accounting and ratemaking on behalf of Utility Consumers' Action Network)
    CA Public Utilities Commission Application 19-04-017

41. In re: Proposed Amendments to N.J.A.C. 14:9 Adoption of Water and Sewer Uniform System of Accounts (2019) – (Assistance to counsel: water and sewer accounting on behalf of the Division of Rate Counsel)
    NJ Board of Public Utilities Docket Nos. WX19050612 and WX19050613

42. In re: Petition of Public Service Electric and Gas Company for Approval of Gas Base Rate Adjustments Pursuant to its Gas System Modernization Program (2019) – (Assistance to Counsel: infrastructure replacement accounting)
    NJ Board of Public Utilities Docket No. GE19040522

43. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2018 Gas System Enhancement Plan Reconciliation Filing (2019) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 19-GREC-06

44. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2018 Gas System Enhancement Plan Reconciliation Filing (2019) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 19-GREC-05

45. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2019) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9602

46. In re: PECO Energy Company Non-Bypassable Transmission Service Charge (NBT) Semiannual Adjustment (2019) - (Appearance: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    PA Public Utility Commission Docket No. M-2018-3005860

47. In re: PECO Energy Company Transmission Formula Rate Application (2018) - (Appearance: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    Federal Energy Regulatory Commission Docket ER17-1519-000

48. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2017 Gas System Enhancement Plan Reconciliation Filing (2018) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 18-GREC-06

49. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2017 Gas System Enhancement Plan Reconciliation Filing (2018) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 18-GREC-05

50. In re: The Application of the Potomac Edison Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2018) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9490

51. In re: Rate Applications of Kansas City Power & Light – Missouri and Kansas City Power & Light – Greater Missouri Operations (2018) – (Appearance: consolidated operations, cost of service and rate design on behalf of the Missouri Office of Public Counsel)
    MO Public Service Commission Case Nos. ER-2018-0145 and ER-2018-0146

52. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2018) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9472

53. In re: Mid-Atlantic Interstate Transmission, L.L.C. 2018 Transmission Formula Rate Protocol Filings (2018) - (Analysis and Advice to Counsel: accounting)
    Federal Energy Regulatory Commission Docket ER17-211-000

54. In re: The Gas Company d/b/a Hawaii Gas Application for Approval of Rate Increases and Revised Rate Schedules and Rules (2017) - (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
    HI Public Utilities Commission Docket No. 2017-0105

55. In re: Montana-Dakota Utilities Co., Application to Increase Natural Gas Rates (2017) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Staff)
    ND Public Service Commission Case No. PU-12-813

56. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9455

57. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 17-GREC-06

58. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 17-GREC-05

59. In re: In the matter of the application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2017) - (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9447

60. In re: PJM Interconnection, L.L.C. - PECO Energy Company Transmission Formula Rate Application (2017) - (Analysis and Advice to Counsel: accounting, cost of service and rate design)
    Federal Energy Regulatory Commission Docket ER17-1519-000

61. In re: Northern Illinois Gas Company d/b/a Nicor Gas Company Proposed General Increase in Gas Rates (2017) - (Appearance: prudence/used and useful and plant accounting re. accelerated asset replacement program on behalf of the Illinois Citizens Utility Board)
    IL Commerce Commission Docket No. 17-0124

62. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) - (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9443

63. In re: PJM Interconnection, L.L.C. - Rockland Electric Company Transmission Rate Application (2017) (Analysis and Advice to Counsel: accounting, cost of service and rate design on behalf of the New Jersey Division of Rate Counsel)
    Federal Energy Regulatory Commission Docket ER17-856-000

64. In re: PJM Interconnection, L.L.C. - Mid-Atlantic Interstate Transmission, L.L.C. Transmission Formula Rate Application (2016) - (Analysis and Advice to Counsel: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
    Federal Energy Regulatory Commission Docket ER17-211-000

65. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9424

66. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9418

67. In re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Advice to Counsel: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01

68. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05

69. In re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Appearance: compliance with statutes and regulations, prudence, cost/benefit, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)
    NH Public Utilities Commission Docket No. DE 16-241

70. In re: Central Maine Power Company, Annual Compliance Filing and Price Change (2016) - (Analysis and Advice to Counsel: tax normalization regulatory asset on behalf of the Maine Office of the Public Advocate)
    ME Public Service Commission Docket No. 2016-00035

71. In re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (2016) - (Appearance: productivity adjustments/performance based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
    Alberta Utilities Commission Proceeding 20414

72. In re: Emera Maine, Proposed Rate Increase in Rates (2016) - (Analysis and Advice to to Counsel: evaluation of management audit of implementation of Customer Information System on behalf of the Maine Office of the Public Advocate)
    ME Public Service Commission Docket No. 2015-00360

73. In re: The Merger of the Southern Company and AGL Resources Inc.- Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Utility Holdings, Inc., d/b/a Elkton Gas (2015-2016) - (Appearance: earnings, synergy savings, rates, operations, supply procurement, safety, and reliability on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9404

74. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of Firm Transportation Agreements with Millennium Pipeline Company, LLC (2015-2016) - (Analysis, Advice to Counsel, and Assistance on Brief: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 15-142

75. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015-2016)
    - (Analysis, Advice to Counsel, and Assistance on Brief: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 15-130

76. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Gaz Metro LNG, L.P.; and National Grid LNG (2015- 2016) - (Analysis and Advice to Counsel: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 15-129

77. In re: Columbia Gas of Massachusetts CY2014 Targeted Infrastructure Reinvestment Factor Compliance Filing (2015) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 15-55

78. ENMAX Energy Corporation (EEC) 2015-2016 Regulated Rate Option Non-Energy Tariff Application (2015-2016) - (Appearance: cost allocation, rate design, non-energy risk on behalf of the Alberta Utilities Consumer Advocate)
    Alberta Utilities Commission Proceeding 20480

79. In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (2014) - (Advice to Counsel: impact on customers on behalf of the New Jersey Division of Rate Counsel)
    NJ Board of Public Utilities BPU Docket No. EM1406

80. In re: Application of Baltimore Gas and Electric Company For Adjustments To Its Electric and Gas Base Rates (2014) (Analysis and Advice to Counsel in Settlement: earnings, investment tracker, cost allocation and rate design on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9355

81. In re: Columbia Gas of Massachusetts CY2013 Targeted Infrastructure Reinvestment Factor Compliance Filing (2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
    MA Department of Public Utilities Docket No. D.P.U. 14-83

82. In re: Potential Business Combination of Entergy Louisiana, LLC and Entergy Gulf States Louisiana, L.L.C. (2014-2015) - (Analysis and Advice to Counsel: impact on rates and consolidation of rates on behalf of the Louisiana Public Service Commission Staff)
    LA Public Service Commission Docket No.U-33244

83. In the Matter of the Application of Ohio Power Company to Adopt a Final Implementation Plan for the Retail Stability Rider (2014) - (Analysis and Advice to Counsel: rate design)
    OH Public Utilities Commission Case No. 14-1186-EL-RDR

84. In re: Examination of Long-Term Natural Gas Hedging Proposals (2014-2015) - (Analysis and Advice to Counsel: natural gas procurement on behalf of the Louisiana Public Service Commission Staff)
    LA Public Service Commission Docket No.R-32975-LPSC, ex parte

85. In re: 2013 Integrated Resource Planning Process for Southwestern Electric Power Company Pursuant to General Order Dated April, 20, 2012 (2014-2015 - (Analysis and Advice to Counsel: IRP design and evaluation on behalf of the Louisiana Public Service Commission Staff)
    LA Public Service Commission Docket No. I-33013 SWEPCO, ex parte

86. In the Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Adopt an Infrastructure Replacement Surcharge Mechanism (2013-2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9332

87. In the Matter of the Application of Baltimore Gas and Electric Company for Approval of a Gas System Strategic Infrastructure Development and Enhancement Plan and Accompanying Cost Recovery Mechanism (2013-2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9331

88. In the Matter of the Application of Delmarva Power & Light Company for an Increase in Electric Base Rates and Miscellaneous Tariff Changes (2013-2014) - (Appearance: earnings, investment tracker design/rates, cost allocation and rate design on behalf of the Delaware Public Service Commission Staff)
    DE Public Service Commission Docket No. 13-115

89. In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota (2013) - (Appearance: cost allocation and rate design on behalf of the North Dakota Public Service Commission Staff)
    ND Public Service Commission Case No. PU-12-813

90. In the Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2013) - (Appearance: expense tracker design/rates and evaluation on behalf of the Maryland Office of People's Counsel)
    MD Public Service Commission Case No. 9316

Exhibit KRP-2

Met-Ed Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	MS	POL	STLT
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	3.62%	2.37%	21.25%	-1.85%	10.69%	9.82%	8.54%	24.34%	-4.99%	16.33%	0.27%	3.36%
RROR ('COSS Summary'!B9:M9)	1.000	0.655	5.870	(0.510)	2.954	2.713	2.359	6.725	(1.379)	4.511	0.075	0.930
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,157,612	1,642,943	1,201	113,177	199,652	45,483	106,192	21,544	436	426	3,471	23,086
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	360,208	263	25,175	39,349	7,461	21,870	4,084	92	84	789	6,225
Total Revenues	642,308	475,376	709	24,159	74,083	13,904	34,666	9,651	68	201	913	8,579
Net Operating Revenues	176,708	115,168	446	-1,016	34,733	6,443	12,797	5,568	-24	116	124	2,354
ROR	8.19%	7.01%	37.14%	-0.90%	17.40%	14.16%	12.05%	25.84%	-5.56%	27.36%	3.58%	10.20%
RROR	1.000	0.856	4.535	(0.110)	2.124	1.730	1.471	3.155	(0.679)	3.341	0.437	1.245

Exhibit KRP-3

Met-Ed Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	MS	POL	STLT
FE PA ROR/RROR Current Rates - no min sys												
ROR ('COSS Summary'!B8:M8)	3.62%	6.46%	7.31%	16.30%	-2.45%	-5.48%	7.09%	7.42%	-0.71%	0.02%	3.85%	0.98%
RROR ('COSS Summary'!B9:M9)	1.000	1.785	2.020	4.503	(0.677)	(1.515)	1.960	2.051	(0.196)	0.005	1.064	0.271
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,157,612	1,262,314	2,105	38,470	500,224	167,411	115,402	40,084	283	1,045	2,645	27,628
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	287,199	436	10,845	96,951	30,848	23,434	7,901	59	203	630	7,092
Total Revenues	642,308	462,916	738	21,713	83,917	17,895	34,952	10,279	63	221	886	8,727
Net Operating Revenues	176,708	175,718	302	10,868	-13,034	-12,953	11,517	2,378	3	18	256	1,635
ROR	8.19%	13.92%	14.35%	28.25%	-2.61%	-7.74%	9.98%	5.93%	1.20%	1.72%	9.67%	5.92%
RROR	1.000	1.700	1.752	3.450	(0.318)	(0.945)	1.219	0.724	0.147	0.210	1.181	0.722
OCA FE Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	176,708	103,384	172	3,151	40,968	13,711	9,451	3,283	23	86	217	2,263
Adjusted Income	176,708	143,977	260	8,669	6,622	(3,529)	13,987	5,008	9	43	224	1,438
Target Rate of Return	8.19%	11.41%	12.37%	22.54%	1.32%	-2.11%	12.12%	12.49%	3.29%	4.12%	8.45%	5.21%
Target Relative Rate of Return	0.50	1.393	1.510	2.752	0.162	(0.257)	1.480	1.525	0.402	0.503	1.032	0.636
OCA Recommended Revenue Distribution												
OCA Rate Base	2,077,949	1,215,707	2,028	37,050	481,755	161,230	111,141	38,604	272	1,006	2,547	26,608
Required Income at Uniform Return	144,833	144,021	248	8,908	(10,683)	(10,617)	9,440	1,949	3	15	210	1,340
Adjusted Income Required	4,874	3,971	7	239	183	(97)	386	138	0	1	6	40
Target Rate of Return	6.97%	9.71%	10.53%	19.18%	1.13%	-1.79%	10.31%	10.63%	2.80%	3.50%	7.19%	4.43%
Target Relative Rate of Return	0.50	1.393	1.510	2.752	0.162	(0.257)	1.480	1.525	0.402	0.503	1.032	0.636
	OCA	Firstenergy										
Rate Base DM-1	6,901,224,103	7,165,798,000	96.31%									
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%									
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%									
Rate of Return DM-1	6.97%											
Adjusted for No Revenue Decrease												
Sum of <0	(97)	0	0	0	0	(97)	0	0	0	0	0	0
Sum of >0	4,971	3,971	7	239	183	0	386	138	0	1	6	40
Income Required	4,874	3,894	7	234	179	0	378	135	0	1	6	39

Exhibit KRP-4

Penelec Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	H	POL	STLT
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	4.25%	3.42%	14.23%	-3.06%	11.83%	14.88%	7.33%	14.81%	-8.14%	17.28%	6.59%	-9.50%
RROR ('COSS Summary'!B9:M9)	1.000	0.806	3.352	(0.722)	2.787	3.505	1.727	3.490	(1.917)	4.070	1.552	(2.237)
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,269,068	1,621,525	2,693	161,127	241,581	55,061	84,854	41,142	535	2,272	9,124	49,153
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	311,650	579	32,042	47,436	9,600	16,672	7,129	94	426	2,841	15,462
Total Revenues	629,767	433,934	1,252	27,173	92,562	21,698	25,319	11,840	33	1,054	4,264	10,638
Net Operating Revenues	185,837	122,284	673	-4,869	45,126	12,098	8,647	4,712	-61	629	1,423	-4,825
ROR	8.19%	7.54%	25.00%	-3.02%	18.68%	21.97%	10.19%	11.45%	-11.39%	27.68%	15.60%	-9.82%
RROR	1.000	0.921	3.053	(0.369)	2.281	2.683	1.244	1.398	(1.391)	3.379	1.905	(1.199)

Exhibit KRP-5

Penelec Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	H	POL	STLT
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	4.25%	9.54%	6.18%	6.07%	-1.64%	-3.57%	7.54%	6.51%	5.28%	-1.68%	10.02%	-9.51%
RROR ('COSS Summary'!B9:M9)	1.000	2.248	1.456	1.429	(0.387)	(0.840)	1.775	1.534	1.245	(0.395)	2.360	(2.239)
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,269,068	1,101,897	4,070	66,976	653,096	224,646	84,276	61,786	67	7,737	7,526	56,990
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	225,455	807	16,424	115,673	37,729	16,474	10,684	14	1,332	2,576	16,763
Total Revenues	629,767	419,683	1,290	24,591	103,846	26,349	25,294	12,418	20	1,204	4,220	10,853
Net Operating Revenues	185,837	194,228	483	8,167	-11,827	-11,380	8,820	1,733	7	-128	1,644	-5,910
ROR	8.19%	17.63%	11.86%	12.19%	-1.81%	-5.07%	10.47%	2.81%	10.09%	-1.65%	21.85%	-10.37%
RROR	1.000	2.152	1.448	1.489	(0.221)	(0.619)	1.278	0.343	1.232	(0.201)	2.668	(1.266)
OCA Proposed Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	185,837	90,245	333	5,485	53,489	18,398	6,902	5,060	6	634	616	4,667
Adjusted Income	185,837	146,573	409	6,661	16,394	1,468	9,577	6,412	6	192	1,036	(2,892)
Target Rate of Return	8.19%	13.30%	10.06%	9.95%	2.51%	0.65%	11.36%	10.38%	9.19%	2.48%	13.76%	-5.07%
Target Relative Rate of Return	0.50	1.624	1.228	1.214	0.306	0.080	1.388	1.267	1.122	0.303	1.680	(0.620)
OCA Recommended Revenue Distribution												
OCA Rate Base	2,185,290	1,061,213	3,920	64,504	628,983	216,351	81,165	59,504	65	7,451	7,248	54,886
Required Income at Uniform Retrurn	152,315	159,192	396	6,693	(9,694)	(9,328)	7,229	1,421	6	(105)	1,348	(4,844)
Adjusted Income Required	5,126	4,043	11	184	452	40	264	177	0	5	29	(80)
Target Rate of Return	6.97%	11.32%	8.56%	8.46%	2.14%	0.56%	9.67%	8.83%	7.82%	2.11%	11.71%	-4.32%
Target Relative Rate of Return	0.50	1.624	1.228	1.214	0.306	0.080	1.388	1.267	1.122	0.303	1.680	(0.620)
	OCA	Firstenergy										
Rate Base DM-1	6,901,224,103	7,165,798,000	96.31%									
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%									
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%									
Rate of Return DM-1	6.97%											
Adjusted for No Revenue Decrease												
Sum of <0	(80)	0	0	0	0	0	0	0	0	0	0	(80)
Sum of >0	5,206	4,043	11	184	452	40	264	177	0	5	29	0
Income Required	5,126	3,981	11	181	445	40	260	174	0	5	28	0

Exhibit KRP-6

Penn Power Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	PNP	POL	STLT
FE PA ROR/RROR Current Rates											
ROR ('COSS Summary'!B8:M8)	2.46%	1.70%	11.51%	-1.53%	4.20%	11.25%	0.89%	408.42%	3.25%	0.63%	-4.07%
RROR ('COSS Summary'!B9:M9)	1.000	0.691	4.682	(0.620)	1.709	4.577	0.361	166.129	1.322	0.257	(1.654)
FE PA Proposed Revenue Distribution - ROR/RROR	644,947										
Rate Base ('COSS Summary'!A6)	644,947	480,076	313	33,093	76,648	16,985	27,002	747	413	2,725	6,945
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	103,160	65	7,326	13,021	2,423	5,436	564	80	654	1,636
Total Revenues	187,186	141,208	143	7,939	19,644	5,649	6,362	3,734	117	847	1,544
Net Operating Revenues	52,821	38,048	78	614	6,623	3,226	925	3,170	37	192	-92
ROR	8.19%	7.93%	24.83%	1.85%	8.64%	18.99%	3.43%	424.19%	9.06%	7.06%	-1.32%
RROR	1.000	0.968	3.032	0.226	1.055	2.319	0.418	51.793	1.106	0.862	(0.162)

Exhibit KRP-7

Penn Power Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	PNP	POL	STLT
FE PA ROR/RROR Current Rates											
ROR ('COSS Summary'!B8:M8)	2.46%	7.21%	5.17%	13.50%	-5.32%	-5.01%	-0.21%	379.22%	-2.44%	8.09%	-4.65%
RROR ('COSS Summary'!B9:M9)	1.000	2.932	2.105	5.490	(2.164)	(2.040)	(0.085)	154.252	(0.991)	3.291	(1.892)
FE PA Proposed Revenue Distribution - ROR/RROR											
Rate Base ('COSS Summary'!A6)	644,947	339,757	431	13,319	192,868	58,700	29,178	803	668	1,695	7,528
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	75,519	88	3,430	35,849	10,638	5,931	577	130	451	1,751
Total Revenues	187,186	136,857	146	7,326	23,242	6,942	6,436	3,736	125	815	1,562
Net Operating Revenues	52,821	61,337	58	3,896	-12,608	-3,696	505	3,158	-5	363	-189
ROR	8.19%	18.05%	13.49%	29.25%	-6.54%	-6.30%	1.73%	393.50%	-0.74%	21.44%	-2.51%
RROR	1.000	2.204	1.647	3.571	(0.798)	(0.769)	0.211	48.047	(0.090)	2.618	(0.306)
OCA Proposed Revenue Distribution											
Required Income ('Alloc-Income'!B38:M38)	52,821	27,826	35	1,091	15,796	4,808	2,390	66	55	139	617
Adjusted Income	52,821	54,705	55	3,540	(9,197)	(2,500)	1,093	5,103	0	298	(275)
Target Rate of Return	8.19%	16.10%	12.71%	26.58%	-4.77%	-4.26%	3.75%	635.76%	0.04%	17.57%	-3.65%
Target Relative Rate of Return	0.50	1.966	1.552	3.245	(0.582)	(0.520)	0.457	77.626	0.005	2.146	(0.446)
OCA Recommended Revenue Distribution											
OCA Rate Base	621,134	327,213	415	12,827	185,747	56,533	28,101	773	643	1,632	7,250
Required Income at Uniform Retrurn	43,293	50,273	48	3,193	(10,334)	(3,029)	414	2,589	(4)	298	(155)
Adjusted Income Required	1,457	1,509	2	98	(254)	(69)	30	141	0	8	(8)
Target Rate of Return	6.97%	13.70%	10.82%	22.62%	-4.06%	-3.62%	3.19%	541.05%	0.03%	14.96%	-3.11%
Target Relative Rate of Return	0.50	1.966	1.552	3.245	(0.582)	(0.520)	0.457	77.626	0.005	2.146	(0.446)
	OCA	Firstenergy									
Rate Base DM-1	6,901,224,103	7,165,798,000	96.31%								
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%								
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%								
Rate of Return DM-1	6.97%										
Adjusted for No Revenue Decrease											
Sum of <0	(330)	0	0	0	(254)	(69)	0	0	0	0	(8)
Sum of >0	1,787	1,509	2	98	0	0	30	141	0	8	0
Income Required	1,457	1,230	1	80	0	0	25	115	0	7	0

Exhibit KRP-8

West Penn Rate District	Company	RS	GSV	GSS	GSM	GSL	GP/TP	PP44	PP46	POL	STLT	PSU
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	2.71%	2.28%	15.72%	-4.12%	6.69%	13.11%	5.87%	122.19%	3.71%	14.36%	-5.04%	5.75%
RROR ('COSS Summary'!B9:M9)	1.000	0.842	5.796	-1.518	2.466	4.834	2.164	45.043	1.369	5.293	-1.858	2.118
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,094,173	1,520,788	2,030	133,474	223,023	66,311	62,657	58	15,938	11,955	53,234	4,705
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	318,621	444	27,307	47,671	14,518	15,162	24	3,805	2,510	11,597	1,061
Total Revenues	614,232	443,603	1,095	22,876	78,833	29,512	17,305	46	4,201	5,956	9,359	1,445
Net Operating Revenues	171,513	124,982	651	-4,430	31,162	14,994	2,143	23	397	3,445	-2,238	384
ROR	8.19%	8.22%	32.09%	-3.32%	13.97%	22.61%	3.42%	39.42%	2.49%	28.82%	-4.20%	8.16%
RROR	1.000	1.003	3.918	(0.405)	1.706	2.761	0.418	4.813	0.304	3.519	(0.513)	0.996

Exhibit KRP-9

West Penn Rate District	Company	RS	GSV	GSS	GSM	GSL	GP/TP	PP44	PP46	POL	STLT	PSU
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	2.71%	6.23%	6.05%	6.73%	-2.93%	-1.93%	2.71%	122.19%	3.71%	24.69%	-5.28%	-5.48%
RROR ('COSS Summary'!B9:M9)	1.000	2.298	2.231	2.482	-1.080	-0.713	0.999	45.043	1.369	9.100	-1.948	-2.020
FE PA Proposed Revenue Distribution - ROR/RROR	2,094,173											
Rate Base ['COSS Summary'!A6)	2,094,173	1,149,729	3,256	46,677	535,477	190,047	76,318	58	15,938	8,391	56,035	12,246
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	254,571	656	12,324	100,926	35,949	17,865	24	3,805	1,895	12,080	2,625
Total Revenues	614,232	433,208	1,130	20,445	87,522	32,986	17,720	46	4,201	5,856	9,437	1,681
Net Operating Revenues	171,513	178,636	474	8,120	-13,404	-2,963	-145	23	397	3,961	-2,643	-943
ROR	8.19%	15.54%	14.56%	17.40%	-2.50%	-1.56%	-0.19%	39.42%	2.49%	47.20%	-4.72%	-7.70%
RROR	1.000	1.897	1.778	2.124	(0.306)	(0.190)	(0.023)	4.813	0.304	5.763	(0.576)	(0.941)
OCA Proposed Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	171,513	94,163	267	3,823	43,856	15,565	6,250	5	1,305	687	4,589	1,003
Adjusted Income	171,513	155,259	431	6,657	(1,752)	2,235	6,246	109	1,546	3,470	(2,176)	(512)
Target Rate of Return	8.19%	13.50%	13.23%	14.26%	-0.33%	1.18%	8.18%	188.54%	9.70%	41.36%	-3.88%	-4.18%
Target Relative Rate of Return	0.50	1.649	1.615	1.741	(0.040)	0.144	0.999	23.021	1.184	5.050	(0.474)	(0.510)
OCA Recommended Revenue Distribution												
OCA Rate Base	2,016,852	1,107,279	3,136	44,954	515,707	183,030	73,500	55	15,350	8,082	53,966	11,793
Required Income at Uniform Retrurn	140,575	146,413	389	6,656	(10,986)	(2,428)	(119)	19	325	3,246	(2,166)	(773)
Adjusted Income Required	4,731	4,283	12	184	(48)	62	172	3	43	96	(60)	(14)
Target Rate of Return	6.97%	11.49%	11.26%	12.14%	-0.28%	1.00%	6.97%	160.46%	8.25%	35.20%	-3.30%	-3.56%
Target Relative Rate of Return	0.50	1.649	1.615	1.741	(0.040)	0.144	0.999	23.021	1.184	5.050	(0.474)	(0.510)
	OCA	Firstenergy										
Rate Base DM-1	6,901,224,103	7,165,798,000	96.31%									
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%									
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%									
Rate of Return DM-1	6.97%											
Adjusted for No Revenue Decrease												
Sum of <0	(122)	0	0	0	(48)	0	0	0	0	0	(60)	(14)
Sum of >0	4,853	4,283	12	184	0	62	172	3	43	96	0	0
Income Required	4,731	4,174	12	179	0	60	168	3	42	93	0	0

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Karl Pavlovic, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 4, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 25, 2024

Signature:

Karl Pavlovic

Address: PCMG and Associates, LLC
22 Brookes Avenue
Gaithersburg, MD 20877

OCA St. 4SR

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Company	**)**	

SURREBUTTAL TESTIMONY OF

KARL RICHARD PAVLOVIC

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

August 8, 2024

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I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Karl Richard Pavlovic. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. ARE YOU THE SAME KARL RICHARD PAVLOVIC WHO SUBMITTED DIRECT AND REBUTTAL TESTIMONY ON JUNE 25, 2024 AND JULY 22, 2024 IN THIS PROCEEDING?

A. Yes. Exhibit KRP-1 to my June 25, 2024 direct testimony summarizes my qualifications and experience and contains a complete list of my engagements as an expert and/or expert witness in matters before state and federal regulatory agencies.

II. PURPOSE OF REBUTTAL TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate ("OCA").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My surrebuttal testimony responds to the rebuttal testimonies of FirstEnergy,[1] Pennsylvania State University (PSU),[2] and the Large Users Groups (LUG)[3] responding to my direct testimony regarding FirstEnergy's Minimum-Size COSSs, recommended revenue targets, recommended residential customer charge tariff rates and FirstEnergy's proposed LED Light Conversion Program.

[1] Rebuttal Testimony of Timothy Lyons (FE PA St. No. 7-R) and Rebuttal Testimony of Mark S. Kehl (FE PA St. No. 6-R).
[2] Rebuttal Testimony of James L. Crist (PSU St. No. 1-R).
[3] Rebuttal Testimony of Brian C. Andrews (LUG St. No. 1R).

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized as follows. Section III A summarizes my findings, conclusions and recommendations. In section III B, I address the rebuttal testimonies of FirstEnergy witness Lyons and LUG witness Andrews that attempt to defend FirstEnergy's minimum-size COSSs and thereby attempt to discredit my recommended class revenue requirements and customer charges. In section III C, I address the rebuttal testimonies of FirstEnergy witness Kehl and LUG witness Andrews that argue against my recommended methodology for recovery of the costs of FirstEnergy's proposed LED Light Conversion Program. In section III D, I address PSU witness Crist's assertions concerning the West Penn Power COSS used in my direct testimony.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibit.

- Exhibit KRP-4SR Analysis of FirstEnergy Distribution Planning Criteria CONFIDENTIAL.

III. DISCUSSION

A. SUMMARY

Q. PLEASE SUMMARIZE THE SUBSTANCE OF YOUR TESTIMONY.

A. As detailed below, I find that:

- The rebuttal testimonies of FirstEnergy witness Lyons and LUG witness Andrews provide no grounds for either modification or retraction of my recommended rate district COSSs without minimum-size classification of accounts 346-368.

- The rebuttal testimonies of FirstEnergy witness Lyons and LUG witness Andrews provide no grounds for either modification or retraction of my recommended rate district class revenue requirements.
- The rebuttal testimony of FirstEnergy witness Lyons provides no grounds for either modification or retraction of my recommended rate district residential customer charges.
- The rebuttal testimonies of FirstEnergy witness Kehl and LUG witness Andrews provide no grounds for either modification or retraction of my recommended rate district LED Conversion program cost recovery surcharge mechanism.
- FirstEnergy's corrected West Penn Power COSS is accounted for in my rebuttal testimony.

B. FIRSTENERGY RATE DISTRICT COST OF SERVICE STUDIES, CLASS REVENUE REQUIREMENTS AND CUSTOMER CHARGES

1. Rate District Cost of Service Studies

Q. WHAT WAS YOUR DIRECT TESTIMONY REGARDING FIRSTENERGY'S RATE DISTRICT COST OF SERVICE STUDIES?

A. In my direct testimony I explained and demonstrated that minimum system classification as both customer-related and demand-related of the distribution account 364-368 costs in FirstEnergy's rate district cost studies is unsupported in theory, system design and operating practice, or empirical quantitative data.[4] In doing so, I noted that electric utilities

[4] Direct Testimony of Karl Richard Pavlovic (Pavlovic Direct), page 7 line 1 to page 15 line 13.

must design and operate the facilities contained in accounts 364-368 based, not on the number of customers, but rather on the aggregate peak demand of customers.[5] I also noted that FirstEnergy had provided no empirical evidence that any portion of the costs of the distribution facilities in its cost studies vary directly with the number of customers.[6] Finally, I noted that, if customers are not a causative factor in the planning, design and operation of FirstEnergy's account 364-368 distribution assets, then there is in fact no support for FirstEnergy's application of minimum-size classification to the costs in plant accounts 364-368.[7]

In their rebuttal testimonies both FirstEnergy witness Lyons and LUG witness Andrews take exception to my direct testimony analysis.

Q. WHAT DOES WITNESS LYONS SAY IN REBUTTAL?

A. Witness Lyons asserts seriatim that (1) customer and demand classification of accounts 364-368 is an industry recognized practice, (2) minimum-size classification of accounts 364-368 is an industry recognized practice, (3) minimum-size classification has been used by Pennsylvania EDCs for many years, (4) OCA has offered no basis to depart from the use of minimum-size classification, (5) Figure 1 of his rebuttal testimony provides empirical, quantitative data that FirstEnergy's distribution facilities vary with changes in the number of customers, and (6) in 2012 the Commission recognized that PPL's minimum-size CCOS was consistent with cost causation.[8]

[5] Pavlovic Direct, page 14 lines 10-13.
[6] Pavlovic Direct, page 12 lines 14-17.
[7] Pavlovic Direct, page 10 lines 7-10 and page 14 lines 13-17.
[8] Lyons Rebuttal, page 13 lines 7-19 and page 6 line 1 to page 7 line4.

Q. WHAT IS YOUR RESPONSE TO WITNESS LYONS?

A. My response to witness Lyons is four-fold.

First, regarding the first three assertions that customer demand classification of accounts 364-368 is an industry practice even in Pennsylvania, my direct testimony analysis does not rest on customer demand classification not being an industry practice. In fact, I noted in my testimony that, while it is still a common industry practice, the selection of the appropriate classification method(s) for a utility's electric distribution system for costing purposes depends on the specific design and operating characteristics of the distribution system consistent with the principle of cost causation.[9]

Second, regarding OCA purportedly providing no basis for departing from customer demand classification, my direct testimony summarized above provides ample basis for departure from a customer demand classification. Moreover, based on FirstEnergy's belated response to my request for its planning, design and operating standards and procedures for plant accounts 364-368 to confirm or rebut FirstEnergy's assertion that customers are the cause of a portion of the costs of the facilities in its plant accounts 364-368,[10] I found that customers are not a cost-causative factor in FirstEnergy's design and operation of its distribution system facilities.[11] Thus, there is a definitive basis in the record to depart from a customer demand classification in FirstEnergy's rate district cost of service studies.

[9] Pavlovic Direct, page 10 line 17 to page 11 line 15.
[10] FirstEnergy response to OCA IR Set XXIII-No. 001 CONFIDENTIAL; see also Pavlovic Direct, page 10 lines 7-10 and page 14 lines 13-17.
[11] Exhibit KRP-4SR CONFIDENTIAL.

Third, regarding witness Lyons' purported empirical, quantitative data that FirstEnergy's distribution facilities vary with changes in the number of customers, inspection of Lyon's Figure 1 reveals that FirstEnergy poles (account 364) *do not* directly vary with number of customers. As such, they cannot readily be characterized as customer costs in accordance with both Bonbright's and the NARUC Manual's definition that customer costs are the costs that do in fact vary directly with the number of customers. Nor does Figure 1 reveal anything about overhead lines (account 365), underground conduit (account 366), underground lines (account 367) and line transformers (account 368). In addition, a correlation of poles and customers, no matter how statistically significant, does not prove customer causation. Finally, the statistical correlation notwithstanding, Exhibit KRP-4SR (Confidential) establishes definitively that the costs in accounts 364-368 are not caused by customers.

Fourth, regarding witness Lyons' assertion that in 2012 the Commission recognized that PPL's minimum-size COOSS was consistent with cost causation, PPL's 2012 proceeding is distinguishable in at least three substantive ways from the current proceeding. In PPL's 2012 and 2010 cases the point of contention was the application of minimum-size classification to PPL's primary voltage level overhead and underground conductors (accounts 366 and 367),[12] while the point of contention in the current proceeding is the application of minimum-size classification to all of FirstEnergy's distribution system facilities (accounts 364-368). In addition, in the 2012 PPL proceeding the Commission relied on the authority of the NARUC Manual regarding the accuracy of minimum-size

[12] Pa. PUC, et al. v. PPL Electric Utilities Corp., Docket Nos. R-2012-2290597, et al., at p. 106 (Opinion and Order entered Dec. 28, 2012) ("2012 PPL Opinion and Order").

classification,[13] while in the current proceeding my direct testimony demonstrates the inaccuracy, indeed inapplicability, of the NARUC Manual regarding minimum-size classification of accounts 364-368 as applied to FirstEnergy.[14] Finally, in the 2012 PPL proceeding no party presented evidence regarding PPL's actual planning, design and operation of its distribution system facilities, while in the current proceeding I am presenting evidence in Exhibit KRP-1SR (Confidential) that there is no customer component involved in the planning, design and operation of FirstEnergy's distribution facilities, the costs of which are recorded in accounts 364-368.[15]

Q. PLEASE EXPLAIN EXHIBIT KRP-1SR.

A. Exhibit KRP-1SR consists of two sections. (1) a two-page summary with specific references to relevant sections of FirstEnergy's distribution planning manual, Distribution System Planning Criteria (DSPC) and (2) the thirty four pages of the DSPC which was provided in response to OCA's request for documentation that would confirm or disconfirm FirstEnergy's assertion that customers are the cause of a portion of the costs of the facilities in its plant accounts 364-368.[16] **BEGIN CONFIDENTIAL** [redacted]

[13] 2012 PPL Opinion and Order at pp. 112-113
[14] Pavlovic Direct, page 7 line 1 to page 15 line 13.
[15] Exhibit KRP-1SR CONFIDENTIAL.
[16] FirstEnergy Response to OCA Set XXIII, No. 001 CONFIDENTIAL Attachment A.
[17] [redacted]

[redacted] **END CONFIDENTIAL** Thus, peak load or demand is the cost-causative factor for the distribution facilities recorded in FirstEnergy's accounts 364-368. i.e., there is no customer component to FirstEnergy's distribution system costs.

Q. WHAT DOES WITNESS ANDREWS SAY IN REBUTTAL?

A. Witness Andrews in rebuttal (1) asserts that many jurisdictions acknowledge customer and demand contribute to the cost of distribution facilities, offering two hypothetical examples of distribution systems that, respectively, has only a customer component and has only a demand component that purport to support that assertion and concluding that FirstEnergy's distribution systems fall somewhere in between the two,[23] (2) provides a list of utilities and customer/demand splits for accounts 364-368 and concludes that the customer/demand splits "clearly show that customer-related costs are a significant component of total distribution line costs,[24] and (3) vaguely asserts that Bonbright presents valid considerations followed by six speculative and unsubstantiated doubts about the Bonbright analysis to "provide a balanced perspective" on minimum distribution system study, from which he concludes that "[minimum system cost studies] provide a systematic approach to

[redacted]

[23] Andrews Rebuttal, page 4 line 1 to page 5 line 10.
[24] Andrews Rebuttal, page 5 lines 11-23 and Exhibit BCA-12.

separating and allocating costs, ensuring that customer-related costs are considered in the revenue allocation and rate design processes."[25]

Q. WHAT IS YOUR RESPONSE TO WITNESS ANDREWS?

A. All three of witness Andrews' points beg the question of whether FirstEnergy's minimum-size classification reflects the principle of cost causation by assuming that there is a customer component to electric distributions systems, (1) by assuming that there is a spectrum of distribution systems running from wholly customer component to wholly demand component, (2) by listing the customer/demand splits of utilities that assume in their cost studies that there is a quantifiable customer component to their distribution systems, and (3) by framing Bonbright's and thereby my analysis as a blinkered and outdated perspective on minimum system classification, rather than directly confronting and refuting the steps in a tightly reasoned critique of the concept of minimum system classification. Thus, witness Andrews fails to confront, much less, rebut my direct testimony that demonstrated that customers are not a cost-causative factor of distribution system facilities.

Q. DO THE REBUTTAL TESTIMONIES OF WITNESSES LYONS AND ANDREWS PROVIDE ANY GROUNDS FOR YOU TO MODIFY OR RETRACT YOUR CONCLUSION THAT FIRSTENERGY'S MINIMUM-SIZE COST STUDIES ARE INCONSISTENT WITH THE PRINCIPLE OF COST CAUSATION AND SHOULD NOT BE USED AS GUIDES TO RATE DESIGN?

A. No.

[25] Andrews Rebuttal, page 7 line 1 to page 8 line 17.

2. Rate District Class Revenue Requirements

Q. WHAT WAS YOUR DIRECT TESTIMONY REGARDING RATE DISTRICT CLASS REVENUE REQUIREMENTS?

A. In my direct testimony I proposed that the class relative rate of return results of each rate district COSS without minimum-size classification[26] be used as guides to class revenue distributions. I specifically recommended that class revenues reflect fifty percent movement to cost recovery parity adjusted to ensure that no class receives a revenue decrease.[27]

Q. WHAT DOES WITNESS LYONS SAY IN REBUTTAL?

A. Witness Lyons (1) agrees that movement toward cost-based rates should be uniform, but asserts that FirstEnergy believes its proposed 10 percent movement strikes the appropriate balance between moving toward cost-based rates and addressing rate continuity[28] and (2) asserts that FirstEnergy believes that minimum-system classification of accounts 364-368 better reflects class cost of service.

Q. WHAT IS YOUR RESPONSE TO WITNESS LYONS?

A. My response is two-fold:

First, as I noted in my rebuttal testimony FirstEnergy's class revenue requirements are calculated by summing 10% of current revenues and 90% of revenues at an 8.19% rate of

[26] Pavlovic Direct, page 16 line 4 to page 22 line 2, Tables 2-5.
[27] Pavlovic Direct, page 28 lines
[28] Lyons Rebuttal, page 14 lines 1-6.

return for each class[29] and is more accurately denominated as a 90 percent movement toward class cost recovery and hardly consistent with the principle of gradualism.

Second, as regards COSSs with and without minimum-size classification, the issue is not one of belief, but rather one of demonstration. As I demonstrated in my direct testimony, FirstEnergy's minimum-size COSSs are not consistent with the principle of cost causation and Exhibit KRP-1SR (Confidential) explained above provides definitive evidence that customers are not a cause of the costs recorded in accounts 364-368.

Q. WHAT DOES WITNESS ANDREWS SAY IN REBUTTAL?

A. Witness Andrews (1) objects that OCA's recommended revenue requirements based on 50 percent movement to cost parity measured by the COSSs without minimum system classification result in the classes under which LUG members take service receiving larger than system average increases,[30] (2) asserts that he agrees with OCA's 50 percent movement to cost parity, but that the COSSs without minimum-system classification do not accurately allocate the costs of accounts 364-368[31] and (3) that OCA has not employed gradualism in its class revenue requirements, citing the examples of the Penn Power GP class and the West Penn Power Rate 44 class that receive respectively 3.7 times and 7.9 times the system average increase.[32]

Q. WHAT IS YOUR RESPONSE TO WITNESS ANDREWS?

A. My response is three-fold.

[29] Pavlovic Rebuttal, page 5 lines 14-16; see the Revenue Target tabs of FirstEnergy excel file COSSs, excel rows 6, 12, 17 and 20.
[30] Andrews Rebuttal, page 9 lines 2-8.
[31] Andrews Rebuttal, page 9 lines 10-14.
[32] Andrews Rebuttal, page 9 lines 14-19.

First, many of the Commercial and Industrial classes represented by witness Andrews receive increases that are the result of moving them a gradual halfway to cost parity measured by their relative rate of return metrics under OCA's COSSs without minimum-size classification,[33]

Second, as regards accurate allocation of accounts 364-368, as I demonstrated in my direct testimony and in Exhibit KRP-1SR (Confidential) explained above, it is OCA's COSSs without minimum-size allocation that accurately allocate accounts 364-368 because customers are not a cause of the costs recorded in accounts 364-368.

Third, OCA's recommended revenue increases for the Penn Power GP and West Penn Power Rate 44 classes are significantly greater than the system average increase because the extent of their underearning is so severe[34] that even a gradual 50 percent movement to cost parity nonetheless produces increases that are significantly above system average.

Q. DO THE REBUTTAL TESTIMONIES OF WITNESSES LYONS AND ANDREWS PROVIDE ANY GROUNDS FOR YOU TO MODIFY OR RETRACT YOUR RECOMMENDED CLASS REVENUE REQUIREMENTS?

A. No.

[33] Pavlovic Rebuttal, page 7 line 1 to page 24 line 14 and Tables 1 – 12.
[34] Pavlovic Rebuttal, Tables 8-9 (Penn Power) and 11-12 (West Penn Power).

3. Rate District Tariff Customer Charges

Q. WHAT WAS YOUR DIRECT TESTIMONY REGARDING RATE DISTRICT RESIDENTIAL CUSTOMER CHARGES?

A. In my direct testimony I proposed to leave the current rate district residential customer charges in place and place the entire class revenue increase in the volumetric charge because the fixed residential charge sends no real actionable price signal to residential customers, while placing the revenue increase in the volumetric charge will provide residential customers with an increased incentive to conserve and ability to exercise control over their monthly electric bill.[35]

Q. WHAT DOES WITNESS LYONS SAY IN REBUTTAL?

A. Witness Lyons (1) agrees that lower fixed charges and higher volumetric charges increase a customer incentive to conserve,[36] (2) asserts that maintaining the residential customer charges at their current level results in intra-class [in]equities between low- and high-use customers[37] by shifting recovery of FirstEnergy's fixed customers costs from low-use customers to high-use customers,[38] and (3) asserts that FirstEnergy's proposed increased residential customer charges represents a reasonable balance between recovering the customer cost of service and providing price signals to incent conservation,[39]

Q. WHAT IS YOUR RESPONSE TO WITNESS ANDREWS?

[35] Pavlovic Direct, page 38 line 9 to page 39 line 9.
[36] Lyons Rebuttal, page 14 lines 17-18,
[37] Lyons Rebuttal, page 14 lines 11-13.
[38] Lyons Rebuttal, page 14 line 20 to page 15 line 9.
[39] Lyons Rebuttal, page 15 lines 10-19.

A. My response is that witness Lyons' intra-class inequity of high-use customers' paying a portion of low-use customers fixed customer costs is of no ratemaking significance because, as I noted in my direct testimony, the recovery of fixed customer costs via a customer charge does not send a real actionable price signal to customers.

Q. DOES THE REBUTTAL TESTIMONY OF WITNESS LYONS PROVIDE ANY GROUNDS FOR YOU TO MODIFY OR RETRACT YOUR RECOMMENDATION THAT THE RESIDENTIAL CUSTOMER CHARGES BE MAINTAINED AT CURRENT LEVELS WITH THE ENTIRETY OF THE RESIDENTIAL CLASS INCREASES PLACED IN THE RESIDENTIAL VOLUMETRIC CHARGES?

A. No.

C. FIRSTENERGY'S PROPOSED LED LIGHT CONVERSION PROGRAM COST RECOVERY

Q. WHAT WAS YOUR DIRECT TESTIMONY REGARDING FIRSTENERGY'S PROPOSED LED LIGHT CONVERSION PROGRAM COST RECOVERY?

A. In my direct testimony I proposed a surcharge mechanism that would make the recovery transparent to ratepayers, properly synchronizing recovery of program costs with receipt of benefits, and then distribute the cost recovery in a notionally equitable manner. The recovery would be via two kilowatt-hour surcharges that would begin one month prior to the inception of the conversion program and recover an annual regulatory asset. One

surcharge would be based on one third of the regulatory asset and applied only to the rate district's streetlighting schedules. The other surcharge would be based on the remaining two thirds of the annual regulatory asset and applied to all the rate district's schedules. The surcharges would be trued up on annual basis and expire upon full recovery of the regulatory asset.[40] I specifically noted that under FirstEnergy's amortization recovery mechanism the costs of the program's benefits would be inequitably shared among ratepayers.[41]

In rebuttal FirstEnergy witness Kehl and LUG witness Andrews both object to my proposed recovery mechanism.

Q. WHAT DOES WITNESS KEHL SAY IN REBUTTAL?

A. Witness Kehl asserts (1) that the costs of the program should be recovered via rate base amortization rather than OCA's recommended surcharge mechanism,[42] (2) that the benefits of the program will be experienced equally by all ratepayers that use the streets and roadways,[43] and (3) that the amortization records that FirstEnergy proposed would ensure transparent recovery.[44]

Q. WHAT IS YOUR RESPONSE TO WITNESS KEHL?

A. My response is three-fold.

[40] Pavlovic Direct, page 42 line 14 to page 43 line 7.
[41] Pavlovic Direct, page 41 lines 7-10 and page 42 lines 9-12.
[42] Kehl Rebuttal, page 2 lines 9-17.
[43] Kehl Rebuttal, page 3 line 10 to page 5 line 7.
[44] Kehl Rebuttal, page 5 lines 8-16.

First, in simply asserting that the costs should be recovered through amortization recovery, witness Kehl does not respond to my arguments for surcharge recovery as presented in my direct testimony summarized above.

Second, as regards the benefits of the program, I clearly stated the three ratepayer benefits of the program and made clear that the benefits would not be equally distributed to ratepayers.[45] The direct benefit of electric consumption will only accrue to streetlight customers. That is why two surcharges are required: (1) a reduction in direct electric consumption surcharge applicable only to streetlighting customers and (2) a carbon/peak capacity reduction surcharge applicable to all customers.

Third, regarding transparency, the transparency that amortization fails to provide is not that of record keeping, but rather that an amortization hidden in base rates fails utterly to provide ratepayers the knowledge of what they are paying for as to the benefits of LED streetlight conversion.

Q. WHAT DOES WITNESS ANDREWS SAY IN REBUTTAL?

A. Witness Andrews opposes OCA's recommendation of surcharge recovery, asserting that since high-consumption customers receive no additional benefit from the conversion program, recovery should be through a fixed monthly charge.[46]

Q. WHAT IS YOUR RESPONSE TO WITNESS ANDREWS?

A. My response is that witness Andrews is simply wrong. All three of the benefits are the result of reductions in electric consumption and therefore the costs should be recovered

[45] Pavlovic Direct, page 41 lines 7-10 and page 42 lines 9-12.
[46] Andrews Rebuttal, page 2 lines 16-21.

through volumetric kilowatt-hour surcharges. It would be manifestly unjust and unreasonable to recover the costs via a fixed monthly charge taking no account of differences in consumption.

Q. DO THE REBUTTAL TESTIMONIES OF WITNESSES KEHL AND ANDREWS PROVIDE ANY GROUNDS FOR YOU TO MODIFY OR RETRACT YOUR RECOMMENDED LED CONVERSION COST RECOVERY SURCHARGE MECHANISM?

A. No.

D. PSU WEST PENN POWER COSS

Q. WHAT IS PSU's REBUTTAL REGARDING THE WEST PENN POWER COSS?

A. Witness Crist states that in my direct testimony the PSU results are in error because I did not have access to FirstEnergy's corrected data for PSU in the West Penn Power COSS.[47]

Q. WHAT IS YOUR RESPONSE TO WITNESS CRIST?

A. In my rebuttal testimony I did have access to FirstEnergy's corrected data for PSU in the West Penn Power COSS and the PSU results in my rebuttal testimony are not in error.[48]

[47] Crist Rebuttal, page 3 lines 19-23.
[48] Pavlovic Rebuttal, page 21 line 1 to page 24 line 14 and Tables 10-12.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, I reserve the right to supplement this testimony if further information is provided by FirstEnergy or the Intervenors discussed herein.

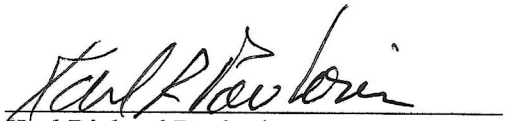
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No.: R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Karl Richard Pavlovic, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 4SR, are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2024,

Signature: 

Karl Richard Pavlovic

Address: PCMG & Associates, LLC,
22 Brookes Ave
Gaithersburg, MD 20877

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3047068
	:	
FirstEnergy Pennsylvania Electric Company	:	

Direct Testimony of Roger Colton

on behalf of

Pennsylvania Office of Consumer Advocate

OCA Statement 5

June 25, 2024

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Summary of Recommendations

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, Massachusetts.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am owner of the firm of Fisher, Sheehan & Colton, Public Finance and General Economics of Belmont, Massachusetts. In that capacity, I provide technical assistance to a variety of federal and state agencies, consumer organizations and public utilities on rate and customer service issues involving water/sewer, natural gas and electric utilities.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of the Office of Consumer Advocate.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. I work primarily on low-income utility issues. This involves regulatory work on rate and customer service issues, as well as research into low-income usage, payment patterns, and affordability programs. At present, I am working on various projects in the states of New Hampshire, Massachusetts, Connecticut, Maryland, Pennsylvania, Ohio, Michigan, Wisconsin, Illinois, Oregon and Washington, as well as in the Canadian provinces of Nova Scotia and British Columbia. My clients include state agencies (e.g., Pennsylvania Office of Consumer Advocate, Maryland Office of People's Counsel, Connecticut Office of Consumers Counsel), federal agencies (e.g., the U.S. Department of Health and Human Services), community-based organizations (e.g., Cleveland Legal Aid Society, Legal Action of Chicago, Sierra Club), and public and private utilities (e.g., Toledo Water, BC Hydro). Examples of my work include my current projects to assist the Connecticut Office of Consumers Counsel (OCC) in the annual generic review of the low-income affordability initiatives of that state's utilities by the Public Utilities

Regulatory Authority. I am also assisting the Massachusetts Attorney General's Office (AGO) in the generic investigation by the Department of Public Utilities (DPU) into the design of low-income affordability programs. I am currently under contract to develop a universal service plan for Nova Scotia. In addition to state-specific and utility-specific work, I engage in national work throughout the United States. For example, I have recently completed a project with the Natural Resources Defense Council to develop a tool by which to assess the financial impact of differing types of low-income bill assistance. A brief description of my professional background is provided in Exhibit RDC-1.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. After receiving my undergraduate degree in 1975 (Iowa State University), I obtained further training in both law and economics. I received my law degree in 1981 (University of Florida). I received my Master's Degree (Regulatory Economics) from the MacGregor School in 1993.

Q. HAVE YOU EVER PUBLISHED ON PUBLIC UTILITY REGULATORY ISSUES?

A. Yes. I have published three books and more than 80 articles in scholarly and trade journals, primarily on low-income utility and housing issues. I have published an equal number of technical reports for various clients on energy, water, telecommunications and other associated low-income utility issues. A summary of my publications is included in Exhibit RDC-1.

Q. HAVE YOU EVER TESTIFIED BEFORE THIS OR OTHER UTILITY COMMISSIONS?

A. Yes. I have testified before the Pennsylvania Public Utility Commission ("PUC" or "Commission") on numerous occasions regarding utility issues affecting low-income customers and customer service. My testimony has specifically included testimony in various proceedings involving low-income program design and operation, along with various rate design issues as they affect low-income customers. I have also testified in regulatory proceedings in 43 states (other than Pennsylvania) and various Canadian provinces on a wide range of utility issues. A list of the jurisdictions in which I have testified is listed in Exhibit RDC-1.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR DIRECT TESTIMONY.

A. The purpose of my Direct Testimony is to review the impact of FirstEnergy Pennsylvania Electric Company's (FirstEnergy or Company) rates on low-income customers. More specifically, I will examine the following topics:

- The overall affordability of FirstEnergy's rates;
- The impact that the unaffordability of FirstEnergy's bills has on collections by the Company;
- A series of recommendations regarding the appropriate procedures and operations that the Company should adopt (outside of its Universal Service and Energy Conservation Plan) (USECP) to address the unaffordability of its bills to low-income customers;
- The need to adopt certain modifications to FirstEnergy's tariffs regarding deposits and shutoffs;
- The adverse impact that the proposed increases in the residential customer charges will have on low-income customers;

- The reasonableness of FirstEnergy's proposed modifications to uncollectibles based on anticipated changes to Chapter 14; and
- The proposed changes in the bad debt offset to the FirstEnergy universal service rider.

Part 1. The Affordability of FirstEnergy Rates.

Q. PLEASE DESCRIBE THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. This section of my testimony examines the affordability of bills to FirstEnergy's residential customers. I begin with an examination of the affordability of FirstEnergy bills over time. I next consider the affordability to low-income residential customers generally. I consider the disproportionately adverse impact that inflation has on low-income customers. I finally examine the impact of FirstEnergy bills on residential customers in general.

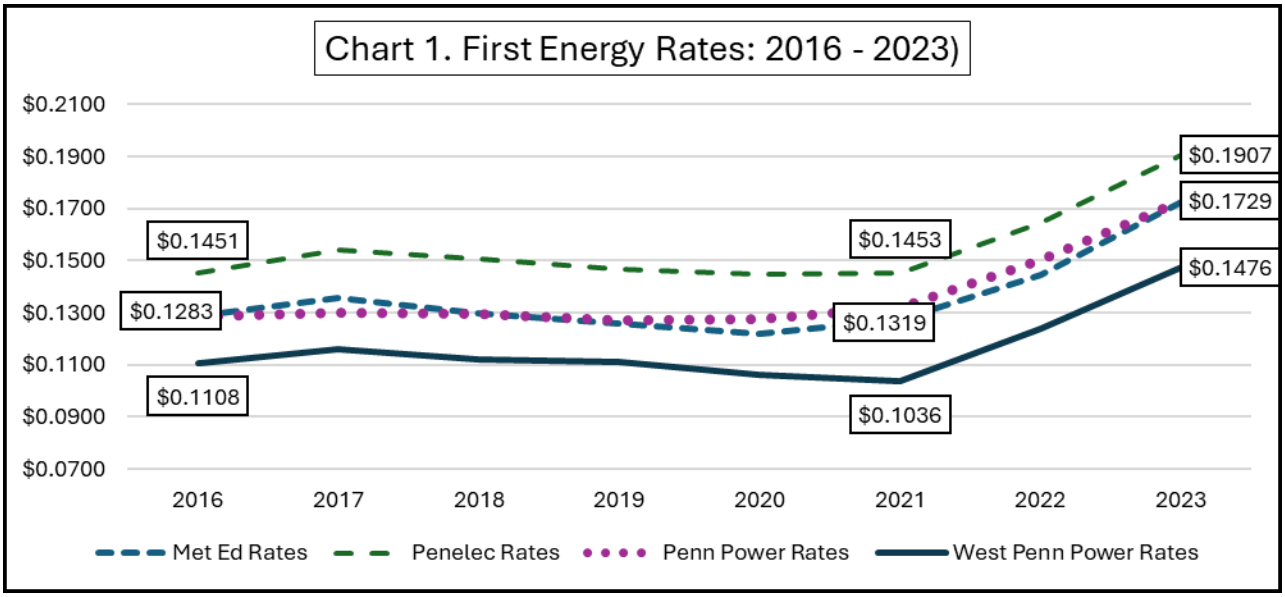
A. FirstEnergy's Bills Over Time.

Q. WHAT IS THE PURPOSE OF YOUR ANALYSIS OF FIRSTENERGY'S RATES OVER TIME?

A. The purpose of my analysis of FirstEnergy's rates over time is to determine the impact of the Company's rate increases, including the cost of generation, on the energy burdens of FirstEnergy's customers. I find that FirstEnergy's rates are imposing increasing burdens on low-income customers, making it increasingly difficult for those customers to afford their utility service. The rates I examined above are bundled rates. The significant majority of FirstEnergy residential customers are on bundled rates.

Q. WHAT DID YOUR ANALYSIS FIND?

A. FirstEnergy's rates have seen a substantial fly-up in recent years. After a period of relative stability from 2016 through 2020, the price per kWh for each of the four FirstEnergy utilities in Pennsylvania have seen a spike. Penelec's rates increased from $0.1453/kWh in 2021 to $0.1907 in 2023, while West Penn Power's increased from $0.1036 to $0.1476 in the same time period. MetEd and PennPower experienced similar rate increases in that time period.



Q. PLEASE EXPLAIN YOUR TABLE BELOW.

A. Table 1 below shows that the affordability of FirstEnergy bills has degraded in the last three years. Table 1 shows that:

- At the lowest range of FPL (0 – 50%), electric burdens significantly exceed the affordable non-heating electric 2% of income definition. FirstEnergy burdens ranged from seven to more than nine times higher than the affordable burden defined by the PUC.

- In the middle range (50 – 100% FPL), FirstEnergy burdens were consistently two or more times higher than the affordable burden defined by the PUC. Even though the affordable burden as this FPL range is 4% of income, the

FirstEnergy burdens exceeded this level in every year from 2016 forward. In 2023, the FirstEnergy burdens ranged from 2.0 to 2.5 times higher than the affordable burden.

- At the highest FPL range (100 – 150% FPL), while FirstEnergy burdens were between 4.7% in 2016 (PN) and 5.8% (PP) in 2016, those burdens had increased to between 5.1% (PN and WP) and 6.1% of income by 2023. In no year, were FirstEnergy burdens at or below the affordable level for any of the FirstEnergy rate divisions.

Table 1. FirstEnergy Electric Bills and Burdens
(2016 – 2022) (shading simply to improve readability)
(PUC Electric Non-Heating Affordability Standard: 2%: 0 – 50% FPL; 4%: 50 – 150% FPL)

	2016	2017	2018	2019	2020	2021	2022	2023
Met-Ed Bills	$1,416	$1,427	$1,459	$1,390	$1,367	$1,446	$1,664	$1,839
Burden at 0-50% FPL	17.1%	17.5%	17.6%	16.3%	15.7%	16.5%	18.1%	19.2%
Burden at 50 – 100% FPL	9.1%	9.3%	9.4%	8.7%	8.4%	8.8%	9.6%	10.2%
Burden at 100-150% FPL	5.5%	5.6%	5.6%	5.2%	5.0%	5.3%	5.8%	6.1%
Penelec Bills	$1,221	$1,249	$1,290	$1,236	$1,228	$1,257	$1,453	$1,595
Burden at 0-50% FPL	14.8%	15.3%	15.5%	14.5%	14.1%	14.3%	15.8%	16.0%
Burden at 50 – 100% FPL	7.9%	8.2%	8.3%	7.7%	7.5%	7.6%	8.4%	8.6%
Burden at 100-150% FPL	4.7%	4.9%	5.0%	4.6%	4.5%	4.6%	5.0%	5.1%
Penn Power Bills	$1,493	$1,425	$1,516	$1,416	$1,445	$1,475	$1,702	$1,808
Burden at 0-50% FPL	18.1%	17.4%	18.2%	16.6%	16.6%	16.8%	18.5%	18.2%
Burden at 50 – 100% FPL	9.6%	9.3%	9.7%	8.9%	8.9%	9.0%	9.9%	9.7%
Burden at 100-150% FPL	5.8%	5.6%	5.8%	5.3%	5.3%	5.4%	5.9%	5.8%
West Penn Power Bills	$1,260	$1,255	$1,300	$1,263	$1,207	$1,183	$1,433	1,588$
Burden at 0-50% FPL	15.2%	15.4%	15.6%	14.8%	13.9%	13.5%	15.6%	16.0%
Burden at 50 – 100% FPL	8.1%	8.2%	8.3%	7.9%	7.4%	7.2%	8.3%	8.5%
Burden at 100-150% FPL	4.9%	4.9%	5.0%	4.7%	4.4%	4.3%	5.0%	5.1%

The improved affordability for FirstEnergy households at 100-150% FPL, however, may be somewhat misleading. Net household resources will not necessarily increase as household income increases. As household income becomes higher and higher, for example, households increasingly lose access to income supplements. While these non-

cash benefits (e.g., Supplemental Nutritional Assistance, housing and medical assistance) are not counted as "income" in determining program eligibility for other assistance programs, the loss of such benefits reduces the ability of a household to pay its home energy bills.

B. The Affordability of Bills to Low-Income Customers.

Q. HAVE YOU ASSESSED THE AFFORDABILITY OF FIRSTENERGY'S RATES TO LOW-INCOME CUSTOMERS IN PARTICULAR AT EXISTING AND PROPOSED RATES?

A. Yes. In Table 2 below, I compare the home energy burdens imposed by FirstEnergy bills at different levels of the FPL using existing rates to the burdens resulting from the rates proposed in this proceeding. Table 2 shows that FirstEnergy bills are unaffordable for customers with income in all four lowest ranges of FPL studied. When incomes increase, bills become more affordable; however, they do not reach an affordable level even at the 125% to 150% FPL range.

Table 2. FirstEnergy Burdens at Existing and Proposed Rates
(given median monthly bills April 2023 – March 2024) (OCA-I-16)
And 2023 FPL (3-person household)

		Met-Ed				Penelec			
		PUC Affordability	Existing Rates	Proposed Rates			PUC Affordability	Existing Rates	Proposed Rates
April 2023 –March 2024	0 – 50% FPL	2%	18.9%	20.6%	April 2023 –March 2024	0 – 50% FPL	2%	17.1%	18.9%
	50 – 100% FPL	4%	10.1%	11.0%		0 – 50% FPL	4%	9.1%	10.1%
	100 – 125% FPL	4%	6.7%	7.3%		100 – 125% FPL	4%	6.1%	6.7%
	125 – 150% FPL	4%	5.5%	6.0%		125 – 150% FPL	4%	5.0%	5.5%
		Penn Power				West Penn Power			
April 2023 –March 2024	0 – 50% FPL	2%	17.5%	19.6%	April 2023 –March 2024	0 – 50% FPL	2%	16.9%	18.8%
	50 – 100% FPL	4%	9.3%	10.5%		50 – 100% FPL	4%	9.0%	10.0%
	100 – 125% FPL	4%	6.2%	7.0%		100 – 125% FPL	4%	6.0%	6.7%
	125 – 150% FPL	4%	5.1%	5.7%		125 – 150% FPL	4%	4.9%	5.5%

For the April 2023-March 2024 period, at proposed rates, the FirstEnergy burdens range between 19% (PennElec, West Penn Power) and 21% (Met-Ed) for customers with incomes at 0-50% FPL. For customers at 50-100% FPL, the burdens at FirstEnergy's proposed rates range between 10% (Penelec, West Penn Power) and 11% (Met-Ed). For the same time period, at proposed rates, the electric burden is 5.5% (Penelec, West Penn Power) and 6.0% (Met-Ed) for customers with incomes at 100-150% FPL. These actual electric burdens are substantially above the PUC's definition of affordable energy burdens of 2% for customers with incomes at 0-50% FPL and 4% for customers with incomes at 50-150% FPL.

Q. HOW DID YOU COMPLETE YOUR ANALYSIS TO CREATE TABLE 2?

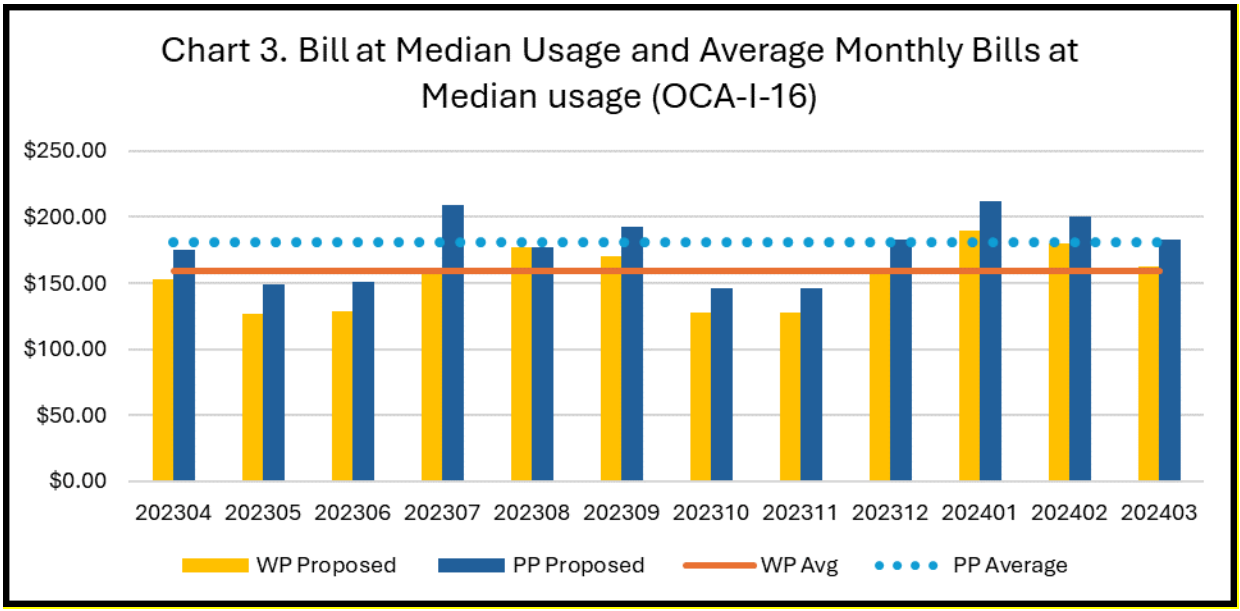
A. I summed the bills at median usage for the most recent 12-month period to obtain an annual bill for each period (April 2023 through March 2024).[1]

It is important to remember, however, that Table 2 is based on bills *at the middle* (i.e., median bills). Median bills are those bills where half of all customers have bills that are higher and half have bills that are lower.

Moreover, it is important to avoid focusing exclusively on *annual* bills and *annual* burdens as ratepayers are required to pay their bills monthly. Even if annual bills represent an affordable percentage of income, the seasonal variation in FirstEnergy bills can present an unaffordable payment obligation in any given month. Chart 3 below compares the median monthly bills for residential customers of PennPower and West Penn Power.[2] The Chart also compares what the monthly average of those median bills are when averaged over the same twelve-month period April-2023 through March 2024 (the most recent twelve months available). The FirstEnergy data shows that there is significant seasonal variation for both rate divisions. When the bills are higher in seasonally warm and cold weather months, the average monthly bill is lower than the bill at median usage for those individual months.

[1] OCA-I-16.

[2] I selected these two divisions since they represented the highest (PennPower: $1,950) and lowest (West Penn Power: $1,867) annual bills during the twelve months in question.



As can be seen, even if monthly *average* bills might be affordable (as reflected in an annual energy burden), the actual monthly bills can push payment obligations far beyond a low-income customer's ability-to-pay.

Q. WHY IS YOUR DISCUSSION OF UNAFFORDABLE BURDENS IMPORTANT OR RELEVANT GIVEN THE COMPANY'S OFFER OF ITS CUSTOMER ASSISTANCE PROGRAM (CAP) AS A PERCENTAGE OF INCOME PLAN (PIP)?

A. While FirstEnergy's offer of its Customer Assistance Program (CAP) to a Percentage of Income Plan (PIP) will largely protect CAP participants from the harms of increasing rates, CAP is helpful only for those low-income customers who participate in CAP. The data, however, shows that the Company serves a relatively small proportion of its low-income customer base through the Company's CAPs. While I make specific recommendations below with respect to how the Company might increase that participation, my observation here is limited to the fact that even given the Company's

CAP, there is a significant low-income customer population that is *not* participating in CAP.

Q. CAN YOU DESCRIBE THE SPECIFICS OF THE PROBLEM?

A. Yes. According to the Company, it has identified 369,281 Confirmed Low-Income customers on its system.[3] Of those Confirmed Low-Income customers, however, only 119,364 (32%)[4] are CAP participants.[5] In absolute terms, FirstEnergy has nearly 250,000 (249,847) Confirmed Low-Income customers who do not participate in CAP.[6]

Table 3. Estimated Low-Income, Confirmed Low-Income, and CAP Participants (OCA-I-04)

	Met-Ed	Penelec	West Penn Power	Penn Power	Total
Estimated low-income[7]	109,057	145,169	147,770	34,395	436,391
Confirmed Low-Income (CLI)	99,699	129,167	111,844	28,501	369,211
CAP participants	30,571	43,439	35,432	9,922	119,364
CLI not enrolled in CAP	69,128	85,728	76,412	18,579	249,847
CLI as percent of estimated	91.4%	89.0%	75.7%	82.9%	84.6%
CAP as pct of CLI	30.7%	33.6%	31.7%	34.8%	32.3%
CAP as pct of estimated LI	28.0%	29.9%	24.0%	28.8%	27.4%

Q. IS THIS THE EXTENT OF THE PROBLEM?

A. No, this is not the extent of the problem. As the Table above documents, FirstEnergy has a total estimated population of 436,391 low-income customers. In other words, while FirstEnergy has confirmed the low-income status of 85% of its estimated low-income

[3] OCA-0I-04.
[4] This 32%, based on data provided by FirstEnergy (OCA-I-04) differs from the "one-quarter" referenced in the Testimony of Mark Jones (FirstEnergy St. 8, at 10), and the documentation provided in support of that statement. (OCA-II-34). I did not attempt to reconcile those two data points.
[5] OCA-0I-04.
[6] 369,281 Confirmed Low-Income customers – 119,364 CAP participants = 249,847 Confirmed Low-Income customers not participating in CAP.
[7] OCA-II-034.

customer base,[8] the Company has then enrolled only 32% of that sub-population of Confirmed Low-Income customers into CAP. FirstEnergy has thus only enrolled roughly 27% of its estimated low-income customer population into CAP.[9]

Q. IS YOUR OBSERVATION THAT FIRSTENERGY ENROLLS ONLY 27% OF ITS LOW-INCOME CUSTOMERS IN CAP A CRITIQUE OF THE COMPANY'S CAP OUTREACH?

A. Not in this proceeding. While I will make specific recommendations regarding CAP enrollment later in my testimony, my purpose here is *not* to critique or criticize FirstEnergy's CAP outreach. Instead, my purpose here is to demonstrate that CAP is not serving approximately three-quarters (73%) of the reported low-income customer population. As a result, my conclusion is that the existence of CAP cannot be used as a reason to ignore the unaffordability of FirstEnergy's proposed rates on the low-income population as a whole.

C. The Disproportionate Impact of Inflation on Low-Income Customers.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the testimony offered by FirstEnergy regarding the impacts of inflation on the Company. According to Company witness Savage, for example, FirstEnergy has seen "significant increases in inflation. . ." (FirstEnergy St. 1, at 7). Ms. Savage asserts that "There are many factors contributing to the Company's request for a distribution rate increase. As an initial matter, since the last

[8] 369,211 Confirmed Low-Income customers / 436,391 estimated low-income customers = 0.846 (85%).
[9] 119,364 CAP participants / 436,391 estimated low-income customers = 0.274 (27%).

base rate case, significant shifts in the economy have occurred, leading to increases in inflation and interest rates." (Id., at 8). The process of setting reasonable rates does not exclusively consider the interests of the utility and its investors. The courts, for example, have noted that setting a reasonable return on equity must involve a balancing of the interests of investors and ratepayers. In addition, under Pennsylvania law, in setting rates, the Public Utility Commission must give "due consideration to the interests of consumers."[10] To the extent that the impacts of inflation on investor interests are considered, therefore, the impacts of inflation on ratepayer interests must be considered as well.

In summary, as I will explain below, the testimony of FirstEnergy's witness Savage does not present a complete story about the stress which inflation has placed on utility ratepayers, especially low-income customers. Inflation is disproportionately affecting lower-income households. The higher ROE sought by FirstEnergy in this proceeding, which would have the impact of driving up rates, will exacerbate this problem. Given the PUC's obligation to balance the interests of investors and ratepayers in setting a reasonable ROE, the PUC should consider the greater adverse impacts that inflation has imposed on low-income ratepayers when setting rates.

[10] 71 Pa. Stat. Ann. §309-5(2).

Q. DOES INFLATION HAVE A PARTICULARLY ADVERSE IMPACT ON LOWER INCOME HOUSEHOLDS?

A. The impact of inflation is felt most severely by low-income households. Research by the U.S. Department of Labor's Bureau of Labor Statistics,[11] reports that "consumers with different incomes experience inflation quite differently."[12] According to this research, the lowest earning households spend a disproportionately higher share of their household budget on household necessities such as rent, food and medical care.

Table 4. Household budget shares of expenditure items for lowest and highest income quartiles, 2017–2018[13]

Expenditure	Lowest Income Quartile	Highest Income Quartile
Rent (including owner's equivalent rent	34.93%	27.93%
Food at home	9.44%	6.58%
Medical care	8.36%	8.09%
Household utilities	4.36%	2.73%
Motor fuels	3.46%	3.42%
Motor vehicle operation	3.44%	3.40%
Telephone service	2.32%	2.00%

While low-income households pay more of their budgeted income for this basket of essential goods, it is also important to note that the BLS researchers found that, "prices for motor fuel, medical care, fuel and utilities, and shelter rose faster than the overall average. . ."[14] Thus, "[b]ecause the lowest income households dedicate more of their

[11] BLS is the agency that calculates and reports the "rate of inflation" (i.e., the Consumer Price Index [CPI]) each month.

[12] Klick and Stockburger (December 2022). Spotlight on Statistics: Inflation Experiences for Lower and Higher Income Households, U.S. Department of Labor, Bureau of Labor Statistics, available at https://www.bls.gov/spotlight/2022/inflation-experiences-for-lower-and-higher-income-households/home.htm

[13] Id.

[14] Id.

spending on these categories," the BLS researchers found, "their overall inflation rates grew faster than highest income households."

Q. WHAT IMPACT DO INFLATION PRICES HAVE ON HOUSEHOLDS?

A. The Federal Reserve researchers found that the "stress" being placed on households by high inflation is much greater for low-income households as low-income households have less resources and fewer options to mitigate the impact of inflation. They explained:

> Prior research suggests that inflation hits low-income households hardest for several reasons. They spend more of their income on necessities such as food, gas and rent—categories with greater-than-average inflation rates—leaving few ways to reduce spending. When prices rise, middle-income households may react by consuming cheaper goods and buying more generic brands. Low-income households do not have the same flexibility; in many cases, they are already consuming the cheapest products.
>
> Additionally, many low-income households lack the ability of higher-income households to stock up when prices are discounted, buy in bulk and save, delay purchases if there is an opportunity to save in the future or buy more cheaply online. Low-income households are also likely to have smaller cash buffers to tide them over a period of high inflation.
>
> The recent Household Pulse Survey data confirm these tendencies. Households with incomes ranging from $25,000 to $35,000 in 2021 were about 19.3 percentage points more likely to be very stressed by inflation than households with incomes in the $75,000 to $100,000 range.[15]

The data is clear and consistent. Lower income families expend a greater share of their income on necessities (which as a whole tend to have higher inflation rates); have smaller financial cushions to mitigate the impact of inflation; and may have less of an ability to switch to lower-priced alternatives. As Lael Brainard, a member of the Board of

[15] Jayashankar and Murphy (January 2023). High inflation disproportionately hurts low-income households, Federal Reserve Bank of Dallas, available at https://www.dallasfed.org/research/economics/2023/0110#:~:text=Low%2Dincome%20households%20most%20stressed,few%20ways%20to%20reduce%20spending%20.

Governors of the Federal Reserve System, concluded, "All Americans are confronting higher prices, but the burden is particularly great for households with more limited resources."[16]

Q. WHAT DO YOU CONCLUDE?

A. The testimony of witness Savage presents only part of the story and focuses only on the stress which inflation has placed on utility stakeholders. Just as inflation may have placed stress on the utility, it has also placed stress on utility ratepayers. However, the inflation experienced in recent years has placed far more stress on lower income ratepayers than it has placed on others. Given that inflation is disproportionately affecting lower income households, the Commission must consider the fact that the higher ROE sought by FirstEnergy in this proceeding will only exacerbate the problem by unnecessarily driving up rates. The PUC is obligated to balance the interests of investors and ratepayers in setting a reasonable ROE. In conducting this balance, the PUC should consider the greater adverse impacts that inflation has imposed on low-income ratepayers when setting rates.

[16] Brainard (April 2022). Variations in the inflation experiences of households, available at https://www.federalreserve.gov/newsevents/speech/brainard20220405a.htm

D. The Affordability of Bills to Residential Customers Generally.

Q. DO YOU HAVE CONCERNS ABOUT THE IMPACT OF THIS FIRSTENERGY RATE REQUEST OUTSIDE OF THE IMPACT ON LOW-INCOME CUSTOMERS?

A. Yes. The PUC should not solely consider the impacts of rate changes on low-income customers, but should also consider the impacts of consumer interests generally. To consider the impacts of FirstEnergy's rate case on consumers generally, I use county-wide data provided by United for ALICE[17] through the ALICE (Asset Limited, Income Constrained, Employed) Report for Pennsylvania. The ALICE data discusses the ability of households to afford the basics required for self-sufficiency.

Q. BRIEFLY SUMMARIZE WHAT THE ALICE DATA SHOWS.

A. The ALICE data shows that the unaffordability of FirstEnergy bills is not exclusively a concern of low-income households. The lack of sufficient resources to pay household necessities extends upward, well into the ALICE population.

Q. WHAT ALICE DATA HAVE YOU EXAMINED?

A. Using the ALICE household survival budget for a family of four in Pennsylvania to live and work, pay rent, and pay utilities,[18] in each of the 56 counties served in whole or part by FirstEnergy, I separately compared Median Household Income (MHI) for the total population, the MHI for the Black population, and the MHI for the Hispanic population.[19] The MHI-ALL is less than the ALICE survival budget in five of the FirstEnergy counties

[17] An overview of United for Alice is available at https://unitedforalice.org/overview.
[18] https://unitedforalice.org/state-reports-mobile
[19] I will refer to the MHI for the total population as "MHI-ALL." I will refer to the MHI for the Black population as "MHI-Black." I refer to the MHI for the Hispanic population as "MHI-Hisp."

(Forest, Huntingdon, Indiana, Potter, Wayne). In these counties, while 13% of all households are in Poverty, 37% of the county's households live with income below the ALICE survival budget.

The MHI-Black population, however, is much worse off. The MHI-Black is below the ALICE survival income in 32 of the 40 FirstEnergy counties for which MHI-Black is reported. The MHI-HISP is below the ALICE survival budget in 20 of the 38 FirstEnergy counties for which MHI-Hisp in reported. In the 32 counties where the MHI-Black is less than the ALICE survival income, while 11% of households live in Poverty, 29% live with income less than ALICE. In the 20 counties where the MHI-Hisp is less than the ALICE survival budget, while 12% of households live in Poverty, 30% live with income less than the ALICE survival budget.

Q. DO YOU HAVE OTHER CONCERNS ABOUT THE IMPACTS OF FIRSTENERGY'S RATE REQUEST ON CONSUMERS GENERALLY?

A. Yes. The adverse impacts to consumers arise not exclusively because of what burdens FirstEnergy's rates are imposing, but also because of the cumulative impacts of the group of utilities serving the same customers. In 2024, it is not merely FirstEnergy that is seeking higher rates. Multiple utilities serving overlapping service territories are seeking substantial rate hike. In 2024:

- Pennsylvania American Water Company (PAWC) has filed a rate case that would increase typical residential water bills by 24.9% in all areas of its service territory (with some designated exceptions, some of which would face higher increases and other which would face lower), or $17.59 per month ($211.08 per year). Additional rate hikes were sought for sewer bills.

- Columbia Gas has requested a rate increase of $18.76 per year ($225.12 per year).

These natural gas, water and wastewater (sewer) rate increases, are in addition to FirstEnergy's requested rate increases ranging from 31% (Met-Ed), to Penelec (28%), to 43% (PennPower), to 40% (West Penn Power). (FirstEnergy St. 1, at). The FirstEnergy rates proposed in this proceeding would, in total, increase *total* utility bills for the customers by amounts ranging from $635.52 (West Penn Power), to $643.92 (Met-Ed, to $673.68 (Penelec), to $691.80 (Penn Power) per year to customers in overlapping service territories.

Table 5. Total Rate Increases Sought in 2024 in Overlapping Utility Service Territories

Columbia Gas	Pennsylvania American Water Co.	Met-Ed	Penelec	Penn Power	West Penn Power	Combined
$225.12	$211.08	$207.72				$643.92
$225.12	$211.08		$237.48			$673.68
$225.12	$211.08			$255.60		$691.80
$225.12	$211.08				$199.32	$635.52

Q. HAVE YOU IDENTIFIED THE EXTENT OF THE OVERLAP?

A. Yes. Each utility has provided a list of the zip codes which comprise its respective service territory. By matching those lists, I identified the zip codes that are served by Columbia Gas and Pennsylvania American Water Company. Of the total 1,153 Pennsylvania zip codes served by FirstEnergy (with matching Census data), 293 are also served by Columbia , while 190 are served by PAWC. When examined on a rate division basis, I find that:

- Of the 200 ME zip codes, 42 overlap with Columbia Gas and 44 overlap with PAWC;

- Of the 435 PN zip codes, 206 overlap with Columbia gas and 98 overlap with PAWC;
- Of the 75 PP zip codes, 34 overlap with Columbia gas and 19 overlap with PAWC; and
- Of the 509 WP zip codes, 36 overlap with Columbia Gas and 41 overlap with PAWC.

Q. HAVE YOU BEEN ABLE TO ASSESS WHAT THE IMPACT ON RESIDENTIAL CUSTOMERS WILL BE FROM THIS CUMULATIVE SET OF RATE INCREASES?

A. Yes. Households that experience the combined rate increases of FirstEnergy, Columbia and PAWC would not be able to absorb these additional financial obligations given local wages. The National Low-Income Housing Coalition (NLIHC) publishes an annual reported titled "Out of Reach: The High Cost of Housing" (OOR).[20] I examined the results of the most recent report (2024) for the York and Erie Metropolitan Statistical Areas (MSAs), as well as for Berks, Northampton, Bradford, Cambria, Crawford, Mercer, Butler, and Fayette Counties.[21] I have examined the impacts of the combined proposed rate increases on the affordability of housing in these geographic areas. The data is set forth in the Table below. As can be seen in this Table, the proposed utility rate increases, standing alone,[22] would generate an effective increase in the Mean Renter

[20] https://reports.nlihc.org/oor/pennsylvania

[21] I selected these geographic areas to represent a range of areas for ME, PN, PP, and WP.

[22] By "standing alone" I mean the increases only, ***not*** the entire utility bill resulting from the increases.

Wage of between nearly 6% (Berks County, Bradford County) to nearly 9% (Cambria County).[23]

Table 6. Impact of Combined Rate Increases on Housing Affordability In Selected FirstEnergy Counties (2024) (shading simply to improve readability)

	Mean Renter Wage	Rent Affordable at Fulltime Job at Mean Renter Wage	Utility Rate Increase as Pct of Rent Affordable at Mean Renter Wage[24]	Annual Income Needed to Afford Rent (2 BR) without Utility Increase[25]	Annual Income Needed to Afford Rent (2 BR) with Utility Increase	Additional Annual Income Needed to Afford Rent with Utility Increase	Additional Hours Needed to Afford Utility Increase at Mean Renter Wage
Erie MSA	$13.04	$678	8.2%	$37,880	$40,093	$2,213	170
York MSA	$17.26	$897	6.2%	$45,120	$47,333	$2,213	128
Adams County	$14.48	$753	7.3%	$44,680	$46,893	$2,213	153
Berks County	$18.05	$939	5.9%	$45,440	$47,653	$2,213	123
Bradford County	$18.60	$967	5.7%	$34,880	$37,093	$2,213	119
Butler County	$16.40	$853	6.5%	$43,600	$45,813	$2,213	135
Cambria County	$12.22	$635	8.7%	$32,840	$35,053	$2,213	181
Crawford County	$13.10	$681	8.1%	$32,840	$35,053	$2,213	169
Fayette County	$12.52	$651	8.5%	$43,600	$45,813	$2,213	177
Mercer County	$13.23	$688	8.0%	$32,840	$35,053	$2,213	167
Northampton County	$16.57	$862	6.4%	$55,840	$58,053	$2,213	134

Given the utility rate increases sought in 2024, in other words, residents seeking rental units in these FirstEnergy counties would need an additional income of $2,213 each

[23] The "Fair Market Rent" upon which the OOR analysis bases its calculations includes utilities.
[24] For purposes of this calculation, I took the mid-point between the highest increase ($692:Penn Power) and lowest increase ($636: West Penn Power) I identified above ([$636 + $692] / 2 = $664).
[25] Rent is affordable at a given income level if the household would be required to pay 30% or less of their income for that rent.

year.[26] At a fulltime job given the mean renter wage for each of these areas, households would need to work between 3.0 additional work weeks (Berks County) and 4.5 additional work weeks (Cambria County) simply to pay the increases in their utility bills. Any other increase in the cost of living would be in addition to this need to increase the renter work week.

Q. WHAT DO YOU CONCLUDE?

A. A consideration of affordability is a critical task to undertake within the structure of any utility rate case. As bills become increasingly unaffordable, the payment difficulties of those customers who face unaffordability become increasingly substantial as well. As I will demonstrate later in this testimony, this conclusion can be well-documented for FirstEnergy. One impact of the unaffordability I discuss, in other words, is its impact on the operating costs (e.g., collection costs, working capital, uncollectible expenses) that are then normalized and passed on to other ratepayers. Also, FirstEnergy's proposals, such as increasing the residential customer charge, have disproportionate adverse effects on low-income customers who already are facing substantial unaffordability.

Moreover, establishing an ROE is fundamentally predicated on balancing customer and investor interests. It is necessary for the Pennsylvania PUC to understand the customer interests in order to appropriately balance them against the competing investor interests. The obligation of the Commission in deciding on the appropriate ROE and the reasonable mix of debt and equity securities should balance consumer and investor interests. (*FPC v. Natural Gas Pipeline Co.*, 315 U.S. 575, 606-607 - 608). Indeed, of the consumer issues that are important drivers of the just and reasonable ROE determination, one of the most

[26] Each of these income levels exceed 150% FPL, the maximum income eligibility for CAP.

significant is the concern about affordability. If a sizable portion of customers cannot afford to pay the rates imposed by the PUC, the PUC can hardly be said to have approved just and reasonable rates. Such concerns should bear directly on the determination of the fair ROE. In addition, as a utility such as FirstEnergy adds more and more expensive plant, this increases rates, which may in turn put downward pressure on the just and reasonable ROE not for financial reasons, but because of affordability concerns.

In sum, the concerns I identify with respect to the unaffordability of FirstEnergy rates can (and should) be considered even outside the consideration of the specific proposals I advance with respect to specific low-income initiatives.

Part 2. Affordability and FirstEnergy's Ability-to-Collect.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I expand upon my discussion of the impact which an increase in FirstEnergy's rates would have on low-income customers. In particular, I examine the collections performance of FirstEnergy with respect to the Company's Confirmed Low-Income customers. I find that the inability-to-pay experienced by the Company's low-income customers directly translates into an inability-to-collect on the part of FirstEnergy.

Q. HOW DO YOU MEASURE THIS INABILITY-TO-COLLECT?

A. In examining the impact of the increasing unaffordable of FirstEnergy bills on the Company's ability to collect, I examine the following metrics: (1) average arrears for Confirmed Low-Income customers; (2) the percentage of Confirmed Low-Income

customers in arrears; (3) the rate of service disconnections for nonpayment for Confirmed Low-Income customers; and (4) the write-off ratio for Confirmed Low-Income customers.

Q. PLEASE EXPLAIN THE FIRST COLLECTIONS METRIC YOU EXAMINE.

A. The first metric I examine involves the average arrears. Table 7 presents data for the average arrears of residential customers and the average arrears of Confirmed Low-Income customers by year for the three years 2020 through 2022.[27] As can be seen, in 2020, for all four FirstEnergy divisions, the average arrearage for a Confirmed Low-Income customer was one-quarter (or more) larger than for a residential customer generally. By 2021 and 2022, the average arrears for a Confirmed Low-Income customer was still 30% or higher. Accompanying the unaffordability of FirstEnergy bills to its low-income population, in other words, is the increased nonpayment of those bills.

[27] 2022 is the last year of data reported.

Table 7. Average Arrears: Residential vs. Confirmed Low-Income (CLI) (2020 – 2022) (BCS 2021 & 2022 Report on Universal Service Programs and Collections Performance)[28]			
	2020	2021	2022
	Met-Ed		
Residential	$668.38	$802.59	$642.83
CLI	$828.73	$1,025.41	$820.00
Ratio: Res to CLI	1.24	1.28	1.28
	Penelec		
Residential	$696.06	$849.19	$685.24
CLI	$834.11	$1,039.88	$848.20
Ratio: Res to CLI	1.20	1.22	1.24
	PennPower		
Residential	$728.35	$892.76	$768.38
CLI	$889.44	$1,113.14	$974.19
Ratio: Res to CLI	1.22	1.25	1.27
	West Penn Power		
Residential	$693.47	$859.74	$694.27
CLI	$883.30	$1,103.58	$919.04
Ratio: Res to CLI	1.27	1.28	1.32

A higher arrears balance imposes costs on the utility, which costs must be paid by remaining ratepayers. Even setting aside any collection efforts that FirstEnergy would direct toward customers in arrears, the higher arrears would impose a higher working capital cost. For each week/month that a bill remains unpaid, FirstEnergy would incur either an out-of-pocket expense for borrowing replacement money or would incur the corresponding opportunity cost for not having those funds to invest.

[28] Available at https://www.puc.pa.gov/filing-resources/reports/universal-service-programs-and-collections-performance-reports/

Q. PLEASE EXPLAIN THE SECOND METRIC THAT YOU EXAMINE.

A. The second metric I examine involves not the size of the arrearage that is being carried, but rather the percentage of customers who are in arrears. Data from the annual BCS reports documents that Confirmed Low-Income customers are not only deeper in arrears, but a higher percentage of Confirmed Low-Income customers are in arrears. The BCS data shows that the percentage of Confirmed Low-Income customers in arrears reached: (1) nearly four times higher than the percentage of residential customers as a whole for MetEd; (2) more than four times higher for Penelec; (3) from roughly four to more than five times higher for PennPower; and (4) from 4.5 to 5.5 times higher for West Penn Power.

What the data shows is that the higher average arrears of Confirmed Low-Income customers is not offset by a lower total percentage of accounts in arrears. Instead, exactly the opposite occurs. Not only are more Confirmed Low-Income customers in arrears, but they are, on average, further in arrears.

Table 8. Percent of Customers in Arrears: Residential vs. Confirmed Low-Income (2020 – 2022) (BCS 2022 Report)			
	2020	2021	2022
	Met-Ed		
Residential	10.2%	9.7%	10.2%
CLI	39.7%	37.8%	38.2%
Ratio: Res to CLI	3.89	3.90	3.75
	Penelec		
Residential	11.2%	10.7%	11.1%
CLI	37.8%	44.4%	45.0%
Ratio: Res to CLI	3.38	4.15	4.05
	PennPower		
Residential	9.0%	9.0%	9.3%
CLI	38.2%	46.8%	47.4%
Ratio: Res to CLI	4.24	5.20	5.10
	West Penn Power		
Residential	9.5%	9.0%	9.0%
CLI	43.4%	49.7%	48.2%
Ratio: Res to CLI	4.57	5.2	5.36

Q. WHAT IS THE THIRD METRIC YOU EXAMINE?

A. The third metric I examine involves service disconnections for non-payment. According to the BCS 2022 Report on universal service programs and collections performance, "Termination of public utility service is the most serious consequence of customer nonpayment and is viewed as a last resort when customers fail to meet their payment obligations."[29] As with the level of arrears, the unaffordability of Company bills has a

[29] According to the annual BCS report: "The **termination rate** is calculated by dividing the number of service terminations by the number of residential customers, allowing for a comparison of termination activities regardless of the number of residential consumers. Any significant increase in a termination rate could indicate a trend or pattern that the Commission may need to investigate."

particular adverse impact on the Company's low-income customers. In the past two year, Confirmed Low-Income customers of FirstEnergy have had service disconnected for nonpayment at a rate from 3.8 times (Penelec, 2021-2022) to more than 5.0 times higher (West Penn Power, 2021-2022) than the rate of service disconnections for residential customers as a whole.

Table 9. Termination Rate: Residential vs. Confirmed Low-Income (2020 – 2022) (BCS 2022 Report)

	2020*	2021	2022
		Met-Ed	
Residential	---	5.3%	5.6%
CLI	---	22.4%	24.6%
Ratio: Res to CLI	---	4.23	4.39
		Penelec	
Residential	---	4.1%	4.1%
CLI	---	15.4%	15.8%
Ratio: Res to CLI	---	3.76	3.85
		PennPower	
Residential	---	1.6%	2.2%
CLI	---	7.7%	10.8%
Ratio: Res to CLI	---	4.81	4.91
		West Penn Power	
Residential	---	2.6%	3.3%
CLI	---	3.3%	17.0%
Ratio: Res to CLI	---	5.00	5.15

* Disconnection rates were nearly non-existent due to COVID-related disconnection restrictions imposed by the PUC.

As with carrying arrears, nonpayment service disconnections have a rate impact on remaining customers. Not only is there an out-of-pocket cost associated with the process of disconnection, but there is the likelihood of lost future revenue as well.

Q. WHAT IS THE FOURTH METRIC YOU EXAMINED?

A. The fourth metric I examine is the gross write-off ratio for residential customers as a whole compared to the gross write-off ratio for Confirmed Low-Income customers. The gross write-off ratio is the percentage of residential billings written off as uncollectible. That is, it is a comparison of total billings to uncollectible balances and is a frequently used long-term measure of collection system performance. I examine the years 2021? through 2022, the most recent years reported. The data shows that the gross write-off ratio for Confirmed Low-Income customers was from five to nearly six times higher than for residential customers for Met-Ed; roughly four times higher for Penelec; from 5.4 to 5.8 times higher for Penelec; and from 5.7 to 5.8 times higher for West Penn Power. Having a higher gross write-off ratio increases costs that must be paid by ratepayers. To the extent that FirstEnergy's CAP can improve payment patterns, the Company would likewise be controlling costs to its customers.

Table 10. Gross Write-Off Ratio: Residential vs. Confirmed Low-Income (2020 – 2022) (BCS 2022 Report)

	2020	2021	2022
	Met-Ed		
Residential	1.7%	1.8%	2.0%
CLI	8.7%	9.6%	9.9%
Ratio: Res to CLI	5.12	5.75	4.95
	Penelec		
Residential	2.0%	2.2%	2.4%
CLI	8.1%	8.9%	9.5%
Ratio: Res to CLI	4.05	4.05	3.96
	PennPower		
Residential	1.3%	1.2%	1.7%
CLI	7.5%	6.9%	9.1%
Ratio: Res to CLI	5.77	5.75	5.35
	West Penn Power		
Residential	1.6%	1.6%	1.8%

CLI	9.2%	9.4%	10.2%
Ratio: Res to CLI	5.75	5.88	5.67

Q. WHAT CAN YOU CONCLUDE FROM THESE METRICS?

A. The data from the four metrics examined above is not presented to criticize FirstEnergy's credit and collection efforts. Instead, the lessons to be learned are two-fold. First, there is considerable opportunity for FirstEnergy to use its universal service programs to address the nonpayment problems of Confirmed Low-Income customers on its system. Second, in a related, although not identical line, the use of universal service programs to address collections problems does not exclusively benefit the low-income customers participating in these programs. The use of universal service programs can also operate to help FirstEnergy manage the costs of payment difficulties which are passed on to all other ratepayers. In the next section, I turn my attention to how FirstEnergy could, and should, do precisely that.

Part 3. Specific Recommendations to Respond to Low-Income Unaffordability.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF OUR TESTIMONY.

A. In this section of my testimony, I consider a series of recommendations that FirstEnergy should adopt to respond to the unaffordability of electricity bills that I have identified above. In my discussion below, I do not recommend changes to the structure or operation of the FirstEnergy universal service program as filed in its most recent Universal Service and Energy Conservation Plan (USECP). Instead, I have reviewed FirstEnergy procedures and operations outside of its USECP to assess the ways in which such procedures and operations can be improved to integrate total Company operations more fully with the FirstEnergy USECP.

Q. PLEASE EXPLAIN THE ROLE WHICH SUCH RECOMMENDATIONS PLAY IN A BASE RATE PROCEEDING.

A. The role of providing affordable service in a base rate proceeding has been identified throughout my discussion above. When rates are unaffordable to low-income customers, that unaffordability affects the rates charged to other customers. In my discussion above, I have documented how the unaffordability of bills leads to higher levels of arrears by low-income customers. Those higher levels of arrears not only lead to FirstEnergy incurring out-of-pocket expenses devoted to the collection of those arrears, they lead to higher levels of expenses such as the higher levels of working capital associated with the revenue that has been billed but not collected. Since working capital is a capital expense, there is also an equity return associated with it, with a corresponding additional tax impact. The rate impact, in other words, is greater than the impact on the initial level of working capital expense.

I have also documented above how the unaffordability of FirstEnergy rates leads to a stream of lost revenue. This lost revenue occurs as low-income customers have service disconnected with no reconnection. This process not only causes FirstEnergy to lose the revenue that is comprised of the unpaid bills at the time of disconnection, but also causes the Company to lose any revenue associated with the bills that would have been associated with future bills. Moreover, even when service is reconnected, each day that a low-income customer remains off-system prior to the reconnection represents a lost sale (and thus lost revenue).

My recommendations below recognize these impacts which low-income unaffordability have on rates. Without needing to propose modifications to the structure of the

FirstEnergy USECP, the recommendations explain how FirstEnergy can improve the service it offers to low-income customers to mitigate the adverse rate impacts of unaffordable bills.

A. Identifying Confirmed Low-Income Customers.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I identify how the Company fails to comply with PUC regulations regarding the identification of "confirmed low-income" customers. I recommend changes that would bring FirstEnergy into compliance with the PUC's regulations.

Q. HOW DOES FIRSTENERGY CURRENTLY IDENTIFY "CONFIRMED LOW-INCOME" CUSTOMERS?

A. When asked to "define and specifically identify all categories or identifiers that DLC includes when calculating its 'confirmed low-income customer' count" for purposes of PUC reporting, the Company responded:

> FE PA uses the reported income levels from Pennsylvania Customer Assistance Program (PCAP) enrollments, Low Income Home Energy Assistance Program (LIHEAP) grants, and payment arrangements to calculate the confirmed low-income customers for the purposes of the annual reporting pursuant to 52 Pa. Code § 54.75.
>
> For security deposit exemption, the Company defines "confirmed low-income" as customers who enrolled on the (PCAP) or received (LIHEAP).[30]

This procedure by FirstEnergy is too limited. It fails to comply with the PUC's regulations regarding how to define a "confirmed low-income" customer. The PUC's

[30] CAUSE-PA-I-004.

regulations explicitly define a "confirmed low-income" customer for Electric Distribution Companies. The PUC regulation defines "confirmed low-income customers" as "Accounts where the [Electric Distribution Company] has obtained information that would reasonably place the customer in a low-income designation."[31]

As can be seen, "confirmed low-income" status is *not* limited to CAP participants, LIHEAP recipients or customers found to be low-income for purposes of a payment arrangement. It would include *any* information that "would reasonably place the customer in a low-income designation." The corresponding natural gas regulation explicitly provides that such information can be provided through "self-certification by the customer." It can also include information obtained when seeking to resolve a pending disconnection.

The Commission has made clear the types of information that a customer can use to "reasonably place [them] in a low-income designation." In implementing the waiver of cash security deposits for low-income households, for example, PUC regulations provide that "An applicant is confirmed to be eligible for a customer assistance program by the public utility if the *applicant provides* income documents *or other information attesting to his or her eligibility for state benefits based on household income eligibility requirements that are consistent with those of the public utility's customer assistance programs*."[32] (emphasis added).

The regulation clearly states that the utility determination may be based on information which the "applicant provides." Moreover, information which the "applicant provides"

[31] 52 Pa. Code 52 Pa. Code § 54.72.
[32] *52 Pa. Code* § 56.32(e).

may include not merely self-certification of the level of income, but, pursuant to the PUC regulation, certification of the *source* of income. For example, customers who receive SNAP (Supplemental Nutrition Assistance Program, formerly known as Food Stamps) assistance, Medicaid, Temporary Aid to Needy Families (TANF), free School Lunch, and other similar benefits will, by the vary receipt of those benefits, be "reasonably place[d]. . .in a low-income designation."

Appropriately and accurately identifying the Company's "confirmed low-income" customers is not only important from the perspective of CAP outreach, but also qualifies such customers for various fee waivers. Moreover, the PUC's regulations provide that a customer is exempt from a cash security deposit when the customer provides information showing that "he or she is eligible for state benefits based upon household income eligibility requirements that *are consistent with* those of the public utility's customer assistance program."[33] (emphasis added).

Q. WHAT DO YOU RECOMMEND?

A. FirstEnergy should modify its policies and procedures regarding the identification of "confirmed low-income" customers to conform with the PUC's regulations. FirstEnergy should include these modified policies and procedures in its residential tariff.

The modified tariff should mirror the PUC regulations, which define "confirmed low-income residential accounts" as "Accounts where the EDC has obtained information that would reasonably place the customer in a low-income designation."[34] While the definition for electric utilities does not provide the explanation that the definition for

[33] 52 Pa. Code § 56.32(e); see also, 56 Pa. Code § 56.41(4).
[34] 52 Pa. Code § 54.72.

natural gas utilities does, the tariff should also incorporate the further guidance which can be obtained from the natural gas regulation which states in relevant part:

> This information may include receipt of LIHEAP funds (Low-Income Home Energy Assistance Program), *self-certification by the customer*, *income source* or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination).[35]

In addition, FirstEnergy should add to each residential tariff under "Special Provisions," a new paragraph with the following language: "A confirmed low-income residential account, including applicants, will be afforded each protection accorded by tariff or regulation, which tariff or regulation applies to any customer or applicant with household income at or below 150% of the Federal Poverty Level."

As can be seen, this recommended language explicitly acknowledges that: (1) FirstEnergy will recognize a customer as a "confirmed low-income" customer when the Company is provided information that would "reasonably place" the customer in a low-income designation; (2) the information can be provided by the customer and need not be confirmed by a third-party; (3) the information can include income information or other information attesting to his or her eligibility for state benefits; and (4) the information would be used to establish the customer's eligibility for a payment arrangement of up to five years in length (i.e., income at or below 150% FPL) pursuant to Section 1405(b) of Chapter 14 of the Public Utility Code.

[35] 52 Pa. Code § 62.2.

B. Nonpayment Disconnections of Confirmed Low-Income Customers.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I address the need of FirstEnergy to take more effective actions to use its universal service program to prevent the disconnection of service for nonpayment to Confirmed Low-Income customers. This discussion addresses not the structure of the FirstEnergy USECP, but rather addresses how FirstEnergy interacts with customers who do *not* participate in the programs.

Q. WHY DO YOU ADDRESS THE DISCONNECTION OF SERVICE IN PARTICULAR?

A. There are several reasons why the disconnection of service should be considered in particular. First, in all the ways I have discussed in detail above, the disconnection of service has rate implications to all customers. Minimizing disconnections would also minimize these adverse rate impacts. Second, as BCS notes in its most recent annual report on universal service programs and collection performance that "Termination of public utility service is the most serious consequence of customer nonpayment and is viewed as a last resort when customers fail to meet their payment obligations."[36] It is thus appropriate to assess whether service terminations are, in fact, being used by FirstEnergy as a "last resort." Third, as BCS states: "Universal Service is a collective name applied to the policies, protections and services that *help low-income customers maintain electric and natural gas service*. . ." (emphasis added).[37] Given that "universal

[36] 2022 BCS Report, at 15.

[37] Id., at 3, citing Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. § 2803 and Natural Gas Choice Competition Act, 66 Pa. C.S. § 2202.

service" is intended to "help low-income customers maintain electric. . .service," it is appropriate to assess whether that objective is being achieved.

Q. IS THE FIRSTENERGY UNIVERSAL SERVICE PROGRAM SUCCESSFUL IN "HELPING LOW-INCOME CUSTOMERS MAINTAIN ELECTRIC SERVICE"?

A. Not entirely. There is significant information documenting the extent to which the Company's universal service program is not helping low-income customers to maintain electric service. I consider the extent to which FirstEnergy is disconnecting service to Confirmed Low-Income customers. FirstEnergy data shows not only that the Company is continuing to disconnect service to a substantial number of Confirmed Low-Income customers, but also that the average arrears at the time of disconnection remains substantial as well.

Q. WHAT LEVEL OF ARREARS IS AT RISK?

A. The data is set forth in Table 11 below. In 2022, FirstEnergy disconnected service to nearly 10,400 Confirmed Low-Income customers, while in 2023, it disconnected service to more than 16,500 Confirmed Low-Income customers.[38] Through March 2024, FirstEnergy had disconnected service to 2,996 Confirmed Low-Income customers. While FirstEnergy was not able to provide the average arrears of Confirmed Low-Income accounts at the time of disconnection,[39] the overall average arrears of Confirmed ranged from a low of 818 (ME 2023) to a high of $1,133 (PP 2022).

[38] This Confirmed Low-Income data excludes CAP customers.

[39] FirstEnergy was not able to provide the average arrears at the time of disconnection. (OCA-I-24).

Table 11. Confirmed Low-Income (CLI) Disconnections and Average Arrears of Confirmed Low-Income Accounts (OCA-1-17 and OCA-I-24)

	2022		2023		2024 (YTD-March)	
	Nonpayment Service Disconnections	Average Arrears of CLI Accts	Nonpayment Service Disconnections	Average Arrears of CLI Accts	Nonpayment Service Disconnections	Average Arrears of CLI Accts
Mt Ed	1,868	$935	2,927	$818	584	$901
Penelec	1,986	$995	3,109	$869	506	$943
Penn Power	364	$1,133	705	$999	147	$1,009
West Penn Power	6,160	$1,087	9,792	$896	1,759	$939
Total	10,378	---	16,533	---	2,996	---

To assume that FirstEnergy has effectively communicated the possibility of enrolling in CAP, and making pre-program arrears subject to forgiveness, to Confirmed Low-Income customers, one would need to assume that nearly 30,000 Confirmed Low-Income customers –remember a "Confirmed Low-Income" customer is a customer from whom FirstEnergy has already received information that would reasonably identify that customer as "low-income"—would *choose* to have their service disconnected rather than to enroll in the Company's CAP. One would further need to assume that these nearly 30,000 customers would choose to pay all or part of their arrears in order to reconnect their service, and to retain those pre-disconnection arrears on their accounts to be paid in the future rather than subjecting those arrears to forgiveness.

Q. WHAT DO YOU FIND?

A. The data above demonstrates that current procedures FirstEnergy uses to enroll Confirmed Low-Income customers –i.e., those customers that FirstEnergy *knows* to be low-income-- are not effectively working to help these customers enroll in CAP to retain utility service (i.e., in the words of the Electricity Competition statute, to "help low-income customers maintain electric. . .service"). Notwithstanding the statutory goal for FirstEnergy's universal service program, thousands of Confirmed Low-Income customers are having their service disconnected for nonpayment, and a portion of those disconnected customers do not have their service reconnected.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that, prior to the disconnection of a Confirmed Low-Income customer, FirstEnergy adopt a procedure, developed in collaboration with its Universal Service Advisory Group (USAG), under which it will seek to make personal contact with the customer subject to disconnection. In that personal contact, the Company shall offer the Confirmed Low-Income customer the opportunity to apply for the Company's CAP and arrearage forgiveness program. This education should *also* include a recommendation and information to be provided both about LIHEAP, its benefits and how to apply, as well as Dollar Energy Fund and any other resources that may be available in the community that can also potentially help the customer to get reconnected. If the customer expresses a desire to make such application, FirstEnergy will postpone the disconnection for a reasonable period of time to allow the application process to be completed.

C. Payment Agreements for Confirmed Low-Income Customers.

Q. PLEASE EXPLAIN YOUR THIRD RECOMMENDATION.

A. My third recommendation is that Confirmed Low-Income customers who are negotiating a deferred payment agreement (DPA) with the Company, as well as customers from whom the Company receives information placing them in an income tier of 0% to 150% FPL, should be provided a stand-alone written Plain English notice informing those customers of their right, in the alternative, to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions). Through that opportunity, rather than needing to agree to retire their arrears over an extended period of time, the Confirmed Low-Income customer would be allowed to enroll in CAP and, upon making appropriate payments, receive a forgiveness of their underlying arrearages. This written communication would be provided to Confirmed Low-Income customers, those customers from whom FirstEnergy had previously received sufficient information to reasonably establish their low-income status.

Q. IS THERE A STATUTORY BASIS FOR IMPOSING THIS REQUIREMENT?

A. Yes. Pennsylvania statutes provide that:

> No public utility shall, directly or indirectly, by any device whatsoever, or in anywise, demand or receive from any person, corporation, or municipal corporation a greater or less rate for any service rendered or to be rendered by such public utility than that specified in the tariffs of such public utility applicable thereto. The rates specified in such tariffs shall be the lawful rates of such public utility until changed, as provided in this part. *Any public utility, having more than one rate applicable to service rendered to a patron, shall, after notice of service conditions, compute bills under the rate most advantageous to the patron*.[40]

[40] 66 Pa. Stat. and Cons. Stat. Ann. § 1303 (West).

(emphasis added). Customers should be given the chance to enroll in CAP, i.e. the most advantageous plan. In order for customers to make an informed choice, they need to be informed of their options in plain language. Indeed, it is very difficult to make an informed choice on a set of options when you're unaware of what the options are. FirstEnergy should not, in other words, require a customer, known to be a Confirmed Low-Income customer, to pay off arrears through a payment arrangement in which arrears would be subject to forgiveness under the Company's CAP.

Q. HAS THIS OR ANY SIMILAR ISSUE BEEN RECENTLY ADDRESSED BY THE COMMISSION?

A. Yes. In the April 4, 2024 decision regarding the Universal Service and Energy Conservation Plan (USECP) of Columbia Gas, the PUC considered whether Columbia Gas could apply an existing deposit against a low-income customer's outstanding arrears before refunding the difference pursuant to statute and regulation. The PUC held that the Company could *not* do so, stating:

> Commission regulations also state that a public utility must "refund a deposit, along with any applicable interest, within 60 days upon determining that the customer or applicant from whom a deposit was collected is not subject to a deposit…." *See* 52 Pa. Code § 56.53(f). The regulations do not permit the public utility to apply a deposit to a delinquent account balance if it is determined the customer was not responsible for paying the deposit prior to accruing the balance.
>
> Accordingly, we direct Columbia to refund security deposits, with applicable interest, collected from customers who are income–eligible for CAP. Columbia may apply the security deposit to the account balance only with the customer's informed consent. As part of obtaining this informed consent,

> Columbia must explain to the customer how applying the security deposit to the account balance would impact the customer's monthly bill.[41]

While that decision related to Columbia Gas, the application of the legal principles would be the same. In a similar fashion, FirstEnergy should be allowed to require a Confirmed Low-Income customer to pay off arrears through a payment arrangement "only with the customer's informed consent." Moreover, as the PUC stated with respect to applying deposits against arrearage balances, "as part of obtaining this informed consent," the Company must explain to the customer how enrolling in CAP and making the customer's arrearage subject to arrearage forgiveness "would impact the customer's monthly bill."

Q. PLEASE EXPLAIN THE SUBSTANTIVE NEED FOR SUCH COMMUNICATION.

A. FirstEnergy reports that it enrolls significant numbers of Confirmed Low-Income customers in deferred payment arrangements through which customers agree to retire arrearages over an extended period of time. The data shows that from April 2021 through March 2024 (37 months), FirstEnergy entered into 11,465 new payment arrangements with Confirmed Low-Income customers not in CAP.[42] These payment arrangements, however, are largely unsuccessful. The Company reports that during that same 38 month period, 11,437 or **99.8%** of Confirmed Low-Income customers (not on CAP) defaulted on their payment plans. (Id.). Additional insights can be gained into the number of Confirmed Low-Income customers that default on their payment plans by examining the

[41] Columbia Gas of Pennsylvania, Inc. Universal Service and Energy Conservation Plan for 2024 - 2028 Submitted in Compliance with 52 Pa. Code § 62.4, Docket M-2023-3039487, Order, at 31 (April, 2024). (hereafter 2024 Columbia USECP Order).
[42] OCA-0I-18.

number of "payment-troubled customers."[43] The data which FirstEnergy provided indicates that during the same time month period, 10,848 Confirmed Low-Income customers (not on CAP) were payment-troubled Confirmed Low-Income customers.[44] The data is forth in Table 12 below.

Table 12. Number of New Deferred Payment Arrangements, Defaulted Payment Arrangements, and Payment-Troubled Customers (Confirmed Low-Income Customers) (FirstEnergy) (April. 2021 – March 2024) (OCA-I-18)

	ME	PN	PP	WP	FE
Avg Monthly Payment Arrangements	612	953	323	904	2,792
# of New Payment Arrangements	2,696	3,912	1,118	3,739	11,465
# of Defaulted Payment Arrangements	2,826	937	3,616	4,058	11,437
# of Payment-Troubled Customers	2,971	3,460	861	3,556	10,848

As can be seen, for the 37 months reported by FirstEnergy, the number of Confirmed Low-Income customers who are "payment-troubled" (i.e., had defaulted on one or more payment plans in a 12-month period) (11,437) is nearly equal to the number of Confirmed Low-Income customers who newly entered into payment plans (11,465).

Q. HOW SHOULD FIRSTENERGY USE THIS INFORMATION?

A. Company customer service representatives would generate information through the DPA process that would demonstrate whether a customer would be eligible for CAP. When asked how customer service representatives determined household income in order to place customers in the correct DPA as governed by Chapter 14, Section 1405(b), FirstEnergy responded:

[43] According to BCS, "A payment troubled customer is a customer who has failed to maintain one or more payment arrangements in a 1-year period." BCS 2022 Report (2022), at 11, citing 52 Pa. Code § 54.72 or § 62.2 .

[44] The number of payment-troubled customers can be less than the number of defaulted payment plans if some customers defaulted on more than one payment arrangement.

> Customers seeking a deferred payment arrangement are asked if they are willing to discuss income by completing a financial summary to see if they qualify. See FE PA Response to OCA Set I, No. 20 for an explanation of the financial summary process. If the customer chooses not to complete the financial summary, the length of their payment plan will be negotiated as a Level D (also known as a Level 4) income level.[45]

FirstEnergy goes on to explain:

> To complete a financial summary, customers provide the number of people in the household and the total adult income information. This information is then used to establish an income level based on Federal Poverty Guidelines. Written documentation of income information is not requested or required to complete a financial summary.[46]

If those customer service representatives know that a household's income and household size would place the customer in the Income Tier at or below 150% FPL for purposes of negotiating a DPA, they would also know that the customer's income and household size would qualify that customer for CAP (and the corresponding arrearage forgiveness).

Q. WHAT DO YOU FIND?

A. Offering a low-income customer a deferred payment arrangement, even a long-term deferred payment arrangement, is not a recipe for success if the reason the customer is in arrears in the first instance is that bills for current service are unaffordable. In those situations, all a deferred payment arrangement does is to begin with the unaffordable bill and ***add*** an additional installment payment through which to retire the arrears. In those instances, it should not be surprising that very substantial numbers of FirstEnergy's Confirmed Low-Income payment arrangements default in any given year. The remedy

[45] OCA-I-22 (attached as Exhibit RDC-2). The actual written procedure for negotiating a "Level D" payment arrangement are confidential, and are not cited here. (OCA-I-22, Confidential Attachment A).
[46] OCA-I-20 (attached as Exhibit RDC-3).

for unpaid bills by low-income customers is not to place those customers on a deferred payment arrangement, but rather to enroll those customers in CAP (with its arrearage forgiveness provisions). Through that remedy, FirstEnergy would not merely address the unpaid bill, but would also address the underlying cause of the unpaid bill. Doing so would not only benefit the low-income customer, but would also benefit the Company and its remaining customers as well.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that before FirstEnergy enters into a payment arrangement with a customer which the Company either: (1) knows to be a Confirmed Low-Income customer; or (2) has generated information through the payment arrangement process documenting that the customer is in the Income Tier at or below 150% FPL, it should be required to provide the customer a stand-alone Plain English notice to that customer of the customer's right to enter into CAP and an explanation of the advantages of CAP's arrearage forgiveness benefits. FirstEnergy should develop this Plain English notice in collaboration with its USAG.

D. Cold Weather Survey CAP Enrollment.

Q. PLEASE EXPLAIN YOUR FOURTH RECOMMENDATION.

A. My fourth recommendation is that customers who have had service disconnected for nonpayment, and who remain disconnected at the time of the Company's Cold Weather Survey (CWS) undertaken for the PUC, should be provided a written, stand-alone, Plain English notice of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions). The data shows that a substantial number of customers who have had service disconnected during the course of

the year remain without heating service at the start of the next winter heating season. This lack of access to service could be remedied for income-eligible customers through enrollment in CAP.

Q. UPON WHAT DO YOU BASE THIS RECOMMENDATION?

A. I have reviewed the results of the PUC's Cold Weather Survey performed at the beginning of the winter heating season each year.[47] I examined data from the three years 2021 and 2023. The data in Table 13 below shows the extent to which residential customers which the Company has disconnected during the non-cold weather months remain without service at the beginning of the next cold weather heating season. Over the most recent three years, between 864 (2022) and 1,227 (2023) FirstEnergy customers who have had service terminated for nonpayment remain without heating service. The percentage of disconnected customers remaining without heating service at the beginning of the cold weather season experienced a sharp increase in the most recent year, from 14.3% in 2022, to 22.5% in 2023. The increasing percentage is not only important unto itself, but is also applied to a base of nearly 5,500 customers surveyed.

Table 13. Cold Weather Survey Results (2021 – 2023)
(FirstEnergy)

	2021	2022	2023
Number surveyed	6,001	6,045	5,450
Vacant	3,994	2,911	2,791
Reconnected (DPA or other)	974	2,136	1,345
Not contacted	857	770	1,065
Occupied with service off	50	94	162
Using alternative source of heating	31	58	89
No heating	907	864	1,227
Percent without heat	15.1%	14.3%	22.5%

[47] Electric, Gas and Water Cold Weather Survey Results, available at https://www.puc.pa.gov/filing-resources/reports/electric-gas-water-cold-weather-survey-results/

It would seem unreasonable to assume that, if given a meaningful choice either to enter the cold weather season without heating service or to enroll in a program that would not only limit their future bills to an affordable percentage of income, but would also provide a forgiveness of their pre-existing arrears, customers would choose to enter the winter months without heating service.

Q. WHY SHOULD FIRSTENERGY FIND IT IMPORTANT TO OFFER CAP ENROLLMENT AS AN OPTION TO CUSTOMERS WHO WOULD OTHERWISE ENTER THE COLD WINTER MONTHS WITHOUT HEATING SERVICE?

A. As I note above, the statutory purpose of Pennsylvania's universal service programs is to "help low-income customers maintain electric and natural gas service. . ."[48] This purpose would be furthered by helping to identify customers who have had their heating service disconnected by FirstEnergy, and who remain without heat, as low-income and then facilitating their enrollment in CAP (along with its arrearage forgiveness). While FirstEnergy states that it provides an "assistance package" at each address,[49] it does not appear to specifically promote enrollment in CAP.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that FirstEnergy adopt a procedure under which it will provide a stand-alone Plain English notice to customers found to be without heating service at the time of the Company's Cold Weather Survey of the customer's right to enter into CAP and an

[48] BCS 2022 Report, at 3, citing Electricity Generation Customer Choice and Competition Act, 66 Pa. C.S. § 2803 and Natural Gas Choice Competition Act, 66 Pa. C.S. § 2202.
[49] OCA-I-61.

explanation of CAP's arrearage forgiveness benefits. FirstEnergy should develop the Plain English notice in collaboration with its Universal Service Advisory Group.

E. Confirmed Low-Income Customers with Substantial Arrears.

Q. PLEASE EXPLAIN YOUR NEXT RECOMMENDATION.

A. My next recommendation is that Confirmed Low-Income customers achieving prescribed levels of arrears should receive a stand-alone written Plain English notice of their right to enter into CAP along with an explanation of CAP's arrearage forgiveness benefits. The PUC has previously observed how enrollment of low-income customers into CAP can be expected to help low-income customers improve their payment patterns. The Commission reasoned that "enrolling low-income customers into CAPs as early as possible generally puts them in the best position to maintain good payment habits and avoid accruing utility debt." [50]

There is no question that FirstEnergy has substantial numbers of Confirmed Low-Income customers that have high arrears.[51] According to the Company's own data, from April 2022 through March 2024 (the most recent 24 months available) as set forth in Table 14 below, FirstEnergy had between 38,055 (August 2022) and nearly 59,000 (February 2024) Confirmed Low-Income customers (not in CAP) with arrears exceeding $300 in any given month.[52] In 2023-2024, on a month-over-month basis, that number noticeably

[50] Id., at 46.

[51] OCA-I-15(b). FirstEnergy explained its data: "FE PA stores arrears data alongside of historically time-sliced indicators that can be used to disaggregate data as "confirmed low-income" (without CAP participants) customers in alignment with PA regulatory income levels. As such, the confirmed low-income arrears data includes accounts that were determined to be confirmed low-income during the month/year for which data was provided." (Id.)

[52] I choose $500 as the threshold to examine because $500 is between the average (mean) arrears of Confirmed Low-Income customers (without CAP) for the period February 2021 through February 2024 ($819) and the median arrears for Confirmed Low-Income customers during the same time period ($380). (OCA-1-11, OCA11-12).

increased. In April 2023 through December 2023, FirstEnergy averaged 50,640 Confirmed Low-Income customers with arrears over $300, while in April 2022 through December 2022, it averaged only 40,564 Confirmed Low-Income customers with arrears that high.

Table 14. Number of Confirmed Low-Income (non-CAP) Accounts with Arrears $300+ (FirstEnergy) (by month) (April 2022 – March 2024) (most recent 24 months) (OCA-I-15)

	Total	>$300		Total	>$300
			Jan 2023	71,561	51,660
			Feb 2023	71,184	53,193
			Mar 2023	69,221	51,002
Apr 2022	62481	42,925	Apr 2023	69,195	47,712
May 2022	61,994	40,955	May 2023	66,235	45,029
Jun 2022	60,905	39,574	Jun 2023	67,838	44,070
Jul 2022	61,982	38,708	Jul 2023	64,547	41,806
Aug 2022	59,054	38,055	Aug 2023	64,501	43,849
Sep 2022	61,596	39,086	Sep 2023	65,235	42,726
Oct 2022	61,146	38,060	Oct 2023	64,163	42,368
Nov 2022	64,431	40,272	Nov 2023	67,685	45,296
Dec 2022	69,782	47,442	Dec 2023	73,239	51,902
			Jan 2024	75,076	56,546
			Feb 2024	76,255	58,776
			Mar 2024	77,610	56,615

FirstEnergy's own evaluation of its CAP supports the conclusion that enrollment in CAP will improve low-income payment patterns. The FirstEnergy evaluation examined the percentage of bills paid by low-income customers while participating in the Company's

CAP.[53] The FirstEnergy data is set forth in Table 15 below. The Table shows that both heating and non-heating FirstEnergy CAP participants had payment coverage ratios of 90% or more.

Table 15. Total Bill Payment Coverage Ratios
FirstEnergy Customer Assistance Program (CAP) Participants

	In-CAP Payment Coverage Ratio (Non-heating)	In-CAP Payment Coverage Ratio (Heating)
FirstEnergy (ME)[54]	91%	93%
FirstEnergy (PN)	91%	119%
FirstEnergy (PP)	100%	98%

This performance is precisely what the PUC was referencing when it observed that CAP "would generally put [low-income customers] in the best position to maintain good payment habits and avoid accruing utility debt." (CITE) My recommendation below is designed to place FirstEnergy's Confirmed Low-Income customers in the best position to maintain good payment habits and avoid accruing *additional* utility debt.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that when Confirmed Low-Income customers accrue an unpaid balance of $300, and at each $300 of incremental arrears thereafter, FirstEnergy provide a stand-alone written Plain English notice informing those customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

[53] APPRISE, Inc. (January 2017). FirstEnergy Universal Service Programs, Final Evaluation Report, at 89, available at https://www.puc.pa.gov/general/pdf/USP_Evaluation-FirstEnergy.pdf (last accessed May 8, 2023).
[54] APPRISE, Inc. (July 2015). FirstEnergy Universal Service Programs, Final Evaluation Report, available at https://www.puc.pa.gov/general/pdf/USP_Evaluation-FirstEnergy.pdf (accessed August 3, 2022).

F. Request for Deposits from Existing Customers.

Q. PLEASE EXPLAIN YOUR SIXTH RECOMMENDATION.

A. My testimony above establishes, in detail, that FirstEnergy has thousands of Confirmed Low-Income customers who are substantially in arrears (having missed two consecutive bills or three or more bills within the preceding 12 months); who have negotiated, but defaulted on, a deferred payment arrangement (i.e., are "payment-troubled"); or who have had service terminated and seek reconnection. Having been identified as a "Confirmed Low-Income customer" means that, by definition, the customer has provided the Company with sufficient information to reasonably lead FirstEnergy to conclude that the customer is low-income. The Company should not merely exempt these customers from any deposit requirement, but should go further by affirmatively soliciting the participation of these customers, *known to be low-income*, in CAP. CAP participation can be expected to improve their payment patterns, benefitting not only the CAP participant but benefitting all other ratepayers as well.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR RECOMMENDATION.

A. My recommendation in this section is tied to the Company's Tariff setting forth provisions regarding rules for deposits. In particular, the Company's current tariff provides in relevant part:

> Where an Applicant's/Customer's credit is not established or the credit of a Customer with the Company has, in the Company's judgment become impaired, or where the Company deems it necessary, a deposit or other guarantee satisfactory to the Company may be required to be supplied by the Applicant/Customer as security for the payment of future and final bills before the Company shall commence or continue to render any type of electric service to the Applicant/Customer. (…)

> The Company utilizes a generally accepted credit scoring methodology in range of general industry practice that is based on an applicant or customer's utility payment history.

By PUC regulation, low-income customers should be exempt from having a cash security deposit imposed, an issue that I address in greater detail below.[55] FirstEnergy, however, should take the opportunity to solicit the enrollment of such Confirmed Low-Income customers into CAP. I recommend that, in those instances where FirstEnergy would otherwise request a cash security deposit as set forth in its Tariff, the Company should, as an alternative to that deposit demand, provide a stand-alone written Plain English notice informing these customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

Q. PLEASE EXPLAIN WHY YOUR RECOMMENDATIONS ABOVE ARE NOT DUPLICATIVE OF EACH OTHER?

A. My recommendations above *are*, in fact, duplicative of each other. Indeed, they are intentionally duplicative. Experience in multiple programs documents that more effective program outreach is associated with making multiple "touches" with the potential participant population. Through adoption of the recommendations I advance above, FirstEnergy increases the number of touches with its Confirmed Low-Income customers, and does so in different, yet interdependent, circumstances. The recommendations involve FirstEnergy telling their Confirmed Low-Income customers: (1) enrollment in CAP is an alternative to having your service disconnected for nonpayment; (2) enrollment in CAP is an alternative to entering into an unaffordable deferred payment arrangement; (3) enrollment in CAP is an alternative to entering the winter heating season

[55] 52 Pa. Code § 56.41(B)(4)

without heating service; and (4) enrollment in CAP is an alternative to continuing to carry arrears (with the costs and stresses that those arrears impose). The multiple touches through adoption of these recommendations can reasonably be expected to increase CAP enrollment without needing to adopt modifications to FirstEnergy underlying universal service program. As I have discussed throughout my testimony, this improved enrollment not only benefits the low-income customers who choose to enroll in CAP, but will also benefit the Company and all remaining ratepayers by reducing costs and enhancing revenues.

Q. IS THERE ANY ADDITIONAL REASON WHY FIRSTENERGY SHOULD PROVIDE THE STAND-ALONE PLAIN ENGLISH NOTICES THAT YOU RECOMMEND ABOVE?

A. Yes. FirstEnergy would appear to be required to offer the CAP to customers which the Company knows to be low-income as an alternative to actions that would impose a substantially greater financial obligation on the low-income customer. Pennsylvania's statutes provide:

> No public utility shall, directly or indirectly, by any device whatsoever, or in anywise, demand or receive from any person, corporation, or municipal corporation a greater or less rate for any service rendered or to be rendered by such public utility than that specified in the tariffs of such public utility applicable thereto. The rates specified in such tariffs shall be the lawful rates of such public utility until changed, as provided in this part. Any public utility, having more than one rate applicable to service rendered to a patron, shall, after notice of service conditions, compute bills under the rate most advantageous to the patron.[56]

[56] 66 Pa. Stat. and Cons. Stat. Ann. § 1303 (West).

With a customer having provided the Company with sufficient information to lead FirstEnergy reasonably to find that customer to be low-income, an action that underlies finding someone to be a "confirmed low-income customer," the Company should, at a minimum, provide notice to those Confirmed Low-Income customers of the potential for CAP enrollment, along with an explanation of arrearage forgiveness (and its advantages) as a "rate most advantageous to the patron."

G. Using Speech Analytics in Identifying Potential CAP Enrollees.

Q. PLEASE EXPLAIN YOUR FINAL FIFTH RECOMMENDATION.

A. My final recommendation involves the use of new technology by FirstEnergy to help the Company's customer service representatives (including third party contractor call center staff) to identify low-income customers who might be eligible for enrollment in CAP. In particular, this technology could be used in particular to help identify customers who are low-income and facing payment difficulties.

Q. PLEASE EXPLAIN YOUR FOCUS ON IDENTIFYING LOW-INCOME CUSTOMERS HAVING PAYMENT DIFFICULTIES.

A. In its 2019 Order revising the CAP Policy Statement, the PUC discussed the role of payment-troubled status in enrolling low-income customers in CAP.[57] While the general consensus of the parties providing comments to the PUC was that payment-troubled status should not be an eligibility requirement for CAP,[58] the Commission was encouraged to use payment-troubled status as a ***targeting*** criteria. Ultimately, the PUC reasoned:

[57] Penn PUC, Final Policy Statement and Order, Docket M-2019-3012599 (September 19, 2019).
[58] Id., at 42, 43 – 45 (Most EDCs and NGDCs do not currently require income-eligible households to be payment-troubled to qualify for their CAPs.)

> We note that enrolling low-income customers into CAPs as early as possible generally puts them in the best position to maintain good payment habits and avoid accruing utility debt. Waiting until a customer has broken a payment agreement or otherwise fallen into arrears could make it harder for a household to succeed in a CAP.[59]

Available technology can assist FirstEnergy in fulfilling the goal of CAP to "maintain good payment habits" by identifying customers potentially eligible for CAP early in the process of responding to payment difficulties. By identifying these customers early in the process, not only will FirstEnergy best serve its low-income customer base, but it will also maximize the use of CAP to help control the costs of nonpayment that I have discussed throughout my testimony (e.g., collection costs, uncollectibles, working capital, and the like).

Q. WHAT "TECHNOLOGY" WOULD ASSIST FIRSTENERGY TO IDENTIFY LOW-INCOME CUSTOMERS HAVING PAYMENT DIFFICULTIES?

A. FirstEnergy explains that it uses the following software to pursue speech pattern analysis or linguistics analysis:

> For in-house call center staff, FE PA has used speech pattern analytics software, NICE Enlighten AI and NICE CXOne, with linguistic analytics to review call center conversations in the preceding 36 months and will continue to use in the coming 36 months. The technology is comprised of algorithms to analyze call center conversations and identify key phrases and words which may identify customer experience insights and customer sentiment trends.[60]

The Company engages in a very narrow use of this software. It states:

> Speech pattern analytics and linguistic analytics software is used to identify key terms, phrases, or speech patterns and not routinely used to actively look for terms, phrases, or other speech patterns. Instead, the software is utilized

[59] Id., at 46.
[60] OCA-I-75.

> on an ad hoc basis to determine customer pain points during significant call volume spikes or during other market disruptor scenarios, such as storms, so that we may best determine how to proactively assist our customer base. FE PA does not maintain reports, evaluations, memos, analyses, or written documents that are responsive to the specific request for terms, phrases, or other speech patterns searched for or otherwise utilized within the immediate preceding 36 months.[61]

While it is changing software providers, FirstEnergy states that it plans to expand its use of speech analytics in the future.

> Due to the customer software platform that was retired at the end of 2023, dashboards no longer are accessible and generated reports were not utilized outside of the system. The software platform's vendor has reported that it does not store historical data of the customer data requested. FE PA *is currently developing* dashboards and reporting which will reference speech analytics findings on a forward-going basis.[62]

(emphasis added). While FirstEnergy asserts that "Speech pattern analytics and linguistic analytics software are used to identify key terms, phrases, or speech patterns and are not routinely used to actively look for terms, phrases, or other speech patterns,[63] that need not be the case. The Company acknowledges:

> FE PA both proactively, and upon request, will determine and identify words and phrases associated with a need in order to monitor customer experience as it relates to a process change, event, or communication. These requests can be made by various departments, such as Legal, Compliance, Customer Experience Leadership to deep dive into customer's pain points, key issues, and adherence to processes. A business need to investigate an impact to call volume or customer experience drives the frequency. An analyst identifies words and/or key phrases using applicable procedures, or the scripting of a particular communication, customer correspondences, or based on what the customers or agents are saying. A search is then conducted on those specific words or phrases to identify applicable calls, information about those calls, and similar phrases associated with it. After reviewing call center calls for a

[61] OCA-I-76.
[62] OCA-I-77.
[63] OCA-I-78 (attached as Exhibit RDC-4).

> speech analytics request, word clouds are deployed to identify key terms, phrases, or other speech patterns. Once a trend is identified, a more robust deep dive into the findings is then undertaken to validate findings and respond to the holistic customer experience.[64]

Q. HOW COULD SPEECH ANALYTICS SOFTWARE BE USED TO FACILITATE CAP ENROLLMENT AND THE IDENTIFICATION OF CONFIRMED LOW-INCOME CUSTOMERS?

A. While FirstEnergy has not historically used its software to search for particular words or phrases, the Company need not impose such limitations on the scope of using speech analytics. The Company has used the software to create ad hoc requests, "key word searches, and "scripting phrases for procedural compliance" in the past.[65] FirstEnergy states:

> The following are examples of how speech analytics are used: Queries/Categories for ad hoc requests, key word searches to be included in word clouds, QA scripting phrases for procedural compliance, and scorecard reports and categories. Example terms and phrases include: "PA Satisfaction", "Check-Free", "eBill", "AllConnect", "Password", "Login", "IVR", etc.[66]

Making modifications to the search terms entails no cost. According to the Company: "FE PA has not had any applicable charges associated with software modifications as it pertains to phrases, terms or other speech patterns searched because new searches are created with each request and there is no cost associated with this."[67]

Speech pattern analytics can also be used to determine whether calls to the FirstEnergy call center are handled properly for purposes of identifying Confirmed Low-Income

[64] Id.
[65] OCA-I-78 (previously attached as Exhibit RDC-4).
[66] Id.
[67] OCA-I-79 (attached as Exhibit RDC-5).

customers and customers who would benefit from enrollment in the Company's universal service programs. Terms, phrases and speech patterns associated with low-income status, payment difficulties, unaffordability, or seeking low-income assistance for energy or other life necessities (e.g., food, housing, medical care) could be identified such that FirstEnergy could search for them to identify universal service calls. Proper handling would include approving delays in collection activities pending applications for and approval of program enrollment; identification in the Company's information technology of Confirmed Low-Income customers; and extending available low-income protections.

Q. DOES THE IMPORTANCE OF IDENTIFYING LOW-INCOME CUSTOMERS END WITH CONSIDERATIONS OF WHETHER THOSE CUSTOMERS ARE ENROLLED IN CAP?

A. No. The importance of confirming the low-income status of FirstEnergy customers extends far beyond whether those customers are enrolled in CAP. For example, PUC regulations require that:

> Notwithstanding subsection (a), a public utility may not require a cash deposit from an applicant who is, based upon household income, confirmed to be eligible for a customer assistance program. An applicant is confirmed to be eligible for a customer assistance program by the public utility if the applicant provides income documents or other information attesting to his or her eligibility for state benefits based on household income eligibility requirement that are consistent with those of the public utility's Customer Assistance Program.[68]

In addition, aside from being applicable to "applicants," the Commission has further extended this prohibition to existing customers as well.[69] Moreover, aside from deposits, FirstEnergy customers with income at or below 150% of Poverty are protected from the

[68] 52 Pa. Code § 56.32(e).
[69] 52 Pa. Code § 56.41(B)(4).

involuntary disconnection of service for nonpayment during cold weather months.[70] While the implication of identifying low-income customers having perhaps the greatest financial benefit to low-income customers is enrollment in CAP, such enrollment is not the exclusive impact of appropriately identifying low-income customers.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that FirstEnergy be directed to extend the use of its speech analytics software to assist with the monitoring of phone calls involving, or potentially involving, universal service programs and other low-income customers. FirstEnergy should be directed to involve its USAG in the identification and selection of Low-Income and Universal Service Terms to be detected by the system in order to confirm that phone calls are properly being identified and handled. Regular six-month reports on the results of the Speech Analytics reviews should be provided to the USAG.

Part 4. Compliance with PUC Low-Income Regulations.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I review certain FirstEnergy tariffs, and the associated policies and practices implementing those tariffs, affecting low-income customers in particular to assess whether they are in compliance with PUC regulations. I find that there are modifications that must be made.

Q. WHAT IS THE FIRST MODIFICATION YOU FIND TO BE NECESSARY?

[70] 66 Pa. C.S. § 1406(e).

A. FirstEnergy needs to make changes in order to bring its tariffs, along with its policies and practices, into compliance with PUC regulations regarding whether and when to exempt low-income customers from demands for cash security deposits. The PUC's regulations provide that a customer is exempt from a cash security deposit "when the customer provides *income documents or other information* that he or she is eligible for state benefits based upon household income eligibility requirements that are *consistent with those of the public utility's customer assistance program*."[71] (emphasis added).

Q. PLEASE EXPLAIN FIRSTENERGY'S CURRENT POLICY REGARDING DEPOSIT WAIVERS.

A. In response to discovery, FirstEnergy explained its policy to be that "For security deposit exemption, the Company defines 'confirmed low-income' as customers who enrolled in the Pennsylvania Customer Assistance Program (PCAP) or received (LIHEAP)."[72] When asked further what income documentation is required to obtain a cash security deposit waiver (or refund), FirstEnergy said: "The Company does not require documentation from customers to waive security deposits. If a customer receives PCAP or LIHEAP, security deposits are automatically waived and additional documentation is not required."[73] The PUC regulation does not require a customer to be a CAP participant or LIHEAP recipient to be exempt from cash security deposits.

As can be seen, the FirstEnergy tariff provides a much narrower exemption than the exemption required by PUC regulations. While FirstEnergy provides that it will exempt customers only if they are "confirmed to be eligible" for the Company's CAP, the

[71] 56 Pa. Code § 56.41(4).
[72] CAUSE-PA-I-004 (attached as Exhibit RDC-6).
[73] OCA-I-21 (attached as Exhibit RDC-7).

regulation requires an exemption from cash security deposits if the customer provides income documents "or other information" demonstrating that the customer is "eligible for state benefits" based on income requirements that are "consistent with" the Company's CAP. If the customer, for example, provides "other information" demonstrating that they are participants in, or eligible for, public assistance programs (such as SNAP, Medicaid, reduced school lunch programs), they are entitled to have any cash security deposit waived (or refunded if already posted). The regulation explicitly provides that a customer need *not* provide "income documents." They can also provide "other information."

Q. DOES FIRSTENERGY HOLD DEPOSITS FROM CONFIRMED LOW-INCOME CUSTOMERS?

A. Yes. When asked to provide by month for each month January 2019 to the present inclusive, the number of Confirmed Low-Income customers with deposits, FirstEnergy responded that: (1) in 2019, it held deposits from 19,038 Confirmed Low-Income customers; (2) in 2020, it held deposits from 7,911 Confirmed Low-Income customers (3) in 2021, it held deposits from 12,714 Confirmed Low-Income customers; (4) in 2022, it held deposits from 36,698 Confirmed Low-Income customers; (5) in 2023, it held deposits from 77,601 Confirmed Low-Income customers; and (6) thus far in 2024 (through March), it holds deposits for 28,058 Confirmed Low-Income customers.[74] As is evident, not only does FirstEnergy hold deposits from customers it knows to be low-income, but also that number is substantially increasing.

[74] OCA-II-5(c) (attached as Exhibit RDC-8).

Q. HAVE YOU EXAMINED OTHER DATA DOCUMENTING THAT FIRSTENERGY HOLDS DEPOSITS FOR CUSTOMERS KNOWN TO BE LOW-INCOME?

A. No. However, the lack of this data is attributable to the fact that FirstEnergy does not track data rather than to the fact that such data does not exist. FirstEnergy reports that it:

- Does not maintain reports or track the number of deposits refunded to Confirmed Low-Income customers;
- Does not maintain reports or track the number of newly Confirmed Low-income customers with deposits whose service was disconnected for nonpayment;
- Does not maintain reports or track the number of disconnected Confirmed Low-Income customer whose service was reconnected with a new or expanded deposit requested and/or collected (in whole or in part) at the time of reconnection;
- Does not maintain reports or track the number of disconnected Confirmed Low-Income customers having posted a deposit whose service was reconnected with no change in the deposit being held.[75]

In addition, FirstEnergy reports that in the past twelve months, FirstEnergy has had from a low of 26,722 customers with income at or below 150% of FPL (December 2023) to a high of 28,963 customers with income at or below 150% of FPL (April 2023) on deferred payment arrangements.[76]In the lowest month (December 2023), FirstEnergy only classified 7,032 of those 26,722 customers with income below 150% of FPL as Confirmed Low-Income customers, with the remainder being classified as *not* being Confirmed Low-Income customers.[77] Moreover, in those same to months, FirstEnergy held a cash security deposit from 11,632 customers with income below 150% of FPL

[75] OCA-II-05, Attachment A (attached as Exhibit RDC-9).
[76] OCA-II-7, Attachment A (attached as Exhibit RDC-10).
[77] OCA-II-7, Attachment B and Attachment C (attached as Exhibit RDC-11).

(December 2023) and from 11,864 customers with income below 150% of FPL (April 023).[78] In December 2023, FirstEnergy held $3,011,856 in cash security deposits from customers whose income the Company knew to be under 150% FPL, while in April 2023, FirstEnergy held $2,998,324 in cash security deposits from these low-income customers.[79] The average cash security deposit held by FirstEnergy was $253 in April 2023 and $259 in December 2023.[80] As the data in each of these Exhibits shows, the numbers in the corresponding months of the most recent months reported (March 2023 through March 2024) presented corresponding amounts.

Q. WHAT PROBLEM DOES THIS DATA REVEAL?

A. This data identifies a serious problem with non-compliance with the PUC's regulations. Remember, a customer need not be an actual CAP participant, or actually receive LIHEAP, in order to qualify for a refund of (or exemption from) cash security deposits. The PUC regulations provide a customer is entitled to a refund (or exemption) "when the customer provides *income documents or other information* that he or she is *eligible for* state benefits based upon household income eligibility requirements that are *consistent with those of the public utility's customer assistance program*."[81] If customers have income less than 150% of FPL, thus qualifying them for a Tier 1 payment arrangement, they also would have income "consistent with" the income qualifications of FirstEnergy's CAP. FirstEnergy should not hold deposits from these customers. As I recommended above, FirstEnergy should be directed to refund deposits for customers from whom the

[78] OCA-II-8 (with attachments) (attached as Exhibit RDC-12).
[79] OCA-II-9, Attachment A (attached as Exhibit RDC-13).
[80] OCA-II-9, Attachment B (attached as Exhibit RDC-14).
[81] 56 Pa. Code § 56.41(4).

Company has received "income documents or other information" indicating that the customer has income at or below 150% of FPL.

Q. WHAT DO YOU FURTHER RECOMMEND?

A. In addition to the refunds I discuss above, for purposes of this section of my testimony, FirstEnergy should also amend its tariff, and modify its implementing practices and procedures, to comply with the PUC regulation. The tariff should read: "The Company shall not require an applicant or customer to provide a cash deposit when the customer provides income documents or other information that he or she is eligible for state benefits based upon household income eligibility requirements that are consistent with those of the Company's customer assistance program." The Company should modify all policies and practices to be consistent with this new tariff language.

Second, I recommend that FirstEnergy refund any cash security deposit received from, or decline to impose a cash security deposit on, any customer who is currently categorized as "Confirmed Low-Income" or who is enrolled in a Tier 1 payment arrangement. By definition, under the PUC's regulations, a Confirmed Low-Income customer is a customer who the Company has received information sufficient to give rise to a reasonable belief that the customer is low-income. Finally, therefore, any customer who has provided income documents or other information, including self-attested information, to the Company that would qualify them for a Tier 1 payment arrangement should be recognized as a Confirmed Low-Income customers who is entitled to all of the protections provided by PUC regulations.

Third, I recommend that FirstEnergy be directed to include in its tariff, and incorporate into its corresponding practices and procedures, that any customer who has previously posted a cash security deposit, and who is subsequently newly found to be low-income pursuant to the discussion above, is entitled to a refund of that deposit at the time they are newly recognized as being low-income.

Fourth, I recommend that FirstEnergy include in its tariff the April 2024 order of the PUC, directing that the Company may apply an existing security deposit to the account balance only with the customer's informed consent. As part of obtaining this informed consent, FirstEnergy must explain to the customer how applying the security deposit to the account balance would impact the customer's monthly bill.

Finally, the Company, within three months after a final order in this proceeding, should undertake a review of all customers from whom the Company currently holds deposits to determine whether they qualify for the exemption, and to make necessary refunds. The Company should report the results of this review to BCS as well as to its Universal Service Advisory Group.

Q. WHAT IS THE SECOND NECESSARY MODIFICATION THAT YOU FIND NEEDS TO BE MADE?

A. When asked to "provide a detailed written description of how the Company "confirms" the low-income status of the Company's customers, including a detailed list of the information accepted to confirm low-income status," FirstEnergy responded in relevant part:

> FE PA defines "confirmed low-income customers" as customers whose household income is at or below 150% of the Federal Poverty Guidelines.

> "Confirmed low-income" status is based on the Pennsylvania Department of Human Services data regarding customer income levels collected through the Low Income Home Energy Assistance Program ("LIHEAP") grant process, or income documents *verified through the Company's Pennsylvania Customer Assistance Program ("PCAP") enrollment process*.
>
> Eligibility is determined by applying online at pabillassist.com or by contacting Dollar Energy Fund at 888-282-6816. Dollar Energy Fund then evaluates the household and income information submitted by the customer during the application process to determine income-eligibility for the PCAP and/or WARM programs.[82]

(emphasis added). This procedure identified by FirstEnergy is too limited. It fails to comply with the PUC's regulations regarding how to define a "confirmed low-income" customer. The PUC's regulations explicitly define a "confirmed low-income" customer for Electric Distribution Companies as including: "Accounts where the EDC has obtained information that would reasonably place the customer in a low-income designation."[83] While the definition for electric utilities does not provide the explanation that the definition for natural gas utilities does, further guidance can be obtained from the natural gas regulation which states in relevant part:

> This information may include receipt of LIHEAP funds (Low-Income Home Energy Assistance Program), *self-certification by the customer*, *income source* or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination).[84]

As can be seen, "confirmed low-income" status is *not* limited to CAP participants and LIHEAP recipients. More importantly, the regulation does not require that customers have their income documents "*verified through the Company's Pennsylvania Customer Assistance Program ("PCAP") enrollment process."* Information that establishes a

[82] OCA-I-19, attached as Exhibit RDC-15.
[83] 52 Pa. Code § 54.72.
[84] 52 Pa. Code § 62.2.

customer as a "confirmed low-income customer" pursuant to the PUC regulation would include *any* information that "would reasonably place the customer in a low-income designation." The regulation explicitly provides that such information can be provided through "self-certification by the customer." It can also include information obtained when seeking to establish a payment plan or otherwise to resolve a pending disconnection (56 Pa. Code § 56.97(b)). "Self-certification" may include not merely self-certification of the level of income, but, pursuant to the PUC regulation, certification of the *source* of income. For example, customers who receive SNAP (Supplemental Nutrition Assistance Program, formerly known as Food Stamps) assistance, Medicaid, Temporary Aid to Needy Families (TANF), free School Lunch, and other similar benefits will, by the vary receipt of those benefits, be "reasonably place[d]. . .in a low-income designation."

While the regulation cited above is the natural gas regulation, it would be unreasonable to assert, or to find, that electric customers would only be found to be "confirmed low-income" if they receive LIHEAP or participate in CAP, while their natural gas counterparts would have a much broader categorization of "confirmed low-income" status. Appropriately and accurately identifying the Company's "confirmed low-income" customers is not only important from the perspective of CAP outreach, but also qualifies such customers for various fee waivers and other consumer protections.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that FirstEnergy incorporate the PUC regulation defining "confirmed low-income" customer into its tariff. The new tariff language would provide that "confirmed low-income customers" would include all "accounts where the Company has obtained information that would reasonably place the customer in a low-income designation. This

information may include receipt of LIHEAP funds, self-certification by the customer, income source or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination)."

I also reiterate the recommendation I made with respect to my discussion of deposit exemptions above. FirstEnergy should modify its tariff, along with its policies, practices and procedures regarding the identification of "confirmed low-income" customers to conform with the PUC's regulations, including self-certification of low-income status. The Company should include these modified policies and procedures in its residential tariff. Within this modified tariff language should be included a list of public assistance programs, mutually agreed to by the Company and its USAG, participation in which would reasonably place the customer in a low-income designation. The Company should explicitly acknowledge that a customer *may* provide, but is *not required* to provide, either the household's actual dollar level of income and the household composition in order to provide sufficient information to reasonably place them in a low-income designation. Moreover, a customer need not go through the CAP enrollment process in order to be recognized as a Confirmed Low-Income customer under the PUC regulation.

Part 5. Proposed Increase in the Residential Customer Charge.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I examine the impacts which FirstEnergy's proposed increase in its residential customer charges will have on low-income customers in particular. Particularly given the affordability issues I have discussed in detail above relating to FirstEnergy's low-income customers, this additional burden on these

customers should not be approved. I conclude that the recommended residential customer charges advanced by OCA witness Pavlovic should be adopted.

As I discuss above with respect to the overall increase in rates, the percentage of income-based CAP offered by FirstEnergy does not adequately protect low-income customers. Only a small fraction of FirstEnergy's low-income customers participate in the Company's CAP. While FirstEnergy has confirmed the low-income status of 85% of its estimated low-income customer base (369,211 of 436,391), it has enrolled only 32% of its Confirmed Low-Income customers into CAP (119,364 of 369,211). Nearly three-quarters of FirstEnergy's estimated low-income customer base, in other words, has not been enrolled in CAP.

Q. DOES THE IMPACT ON CAP CUSTOMERS AFFECT OTHER LOW-INCOME CUSTOMERS THAT ARE NOT PARTICIPATING IN CAP?

A. Yes. Even though the percentage of low-income customers participating in CAP is small, increasing the customer charge to these customers has an adverse impact on other low-income customers. When the residential customer charge is increased, the total cost of the CAP program increases as well. This occurs because the increased bills to the CAP customers participating in the percentage of income program component of CAP will be passed through to other ratepayers on a dollar-for-dollar basis. While the individual (percentage of income) CAP participants are protected from the increased fixed customer charge, in other words, the CAP program as a whole is not. Other ratepayers, including non-participating low-income ratepayers, will pay this increase. Even with LIURP and other conservation activities by CAP customers, these increased costs will remain.

Q. DOES THE FIRSTENERGY PROPOSAL TO INCREASE ITS RESIDENTIAL CUSTOMER CHARGE IMPOSE PARTICULAR HARMS ON LOW-INCOME CUSTOMERS?

A. Yes. The proposed increase in its fixed monthly charge will have serious implications for low-income customers. Increasing the fixed monthly customer charge increases the portion of a bill that a low-income customer cannot avoid by adjusting the customer's usage. The dollars of annual residential bills that are comprised of unavoidable fixed charges clearly increases with FirstEnergy's proposed increase in the residential customer charge. This increase in the part of the total bill that is comprised of fixed charges impedes the ability of low-income customers to control their bills through a reduction in their usage.

Q. WHAT DO YOU MEAN WHEN YOU DISCUSS LOW-INCOME EFFORTS TO "REDUCE CONSUMPTION?

A. "Reducing consumption" is not merely associated with energy efficiency improvements. Low-income households, particularly vulnerable low-income households (e.g., elderly, disabled, families with children), will take actions to try to reduce their bills to more affordable levels, frequently involving substantial household deprivation or the undertaking of substantial risks. Available research documents that low-income households also seek to reduce bills by reducing consumption, through actions such as closing parts of their home; reducing heating temperatures (even if to unsafe or unhealthy levels); or substituting the use of ovens or stoves to heat limited areas of their homes rather than using their heating systems to heat the entire home. The National Energy Assistance Directors Association (NEADA) performs a periodic Congressionally-funded

survey of the impacts of unaffordable home energy bills. The most recent survey, known as the National Energy Assistance (NEA) Survey, was performed in 2018 (published in December 2018).[85] Data on three actions which low-income households take to reduce their energy consumption when they do not have sufficient money to pay their utility bills is presented in the Table below.

Two observations are readily apparent from this data. First, taking dramatic actions to reduce home energy consumption is not at all uncommon within the low-income population when those customers do not have sufficient money to pay their home energy bills. From one-in-five (21%: 100 – 150% of Poverty) to one-in-three (34%: 0 – 50% of Poverty) customers close off parts of their home in almost every month, or in "some months," when they cannot afford to heat their homes. From one-in-four customers (26%: 0 – 50% of Poverty) reduce the temperature in their homes to unsafe or unhealthy levels in almost every month or in some months. One-in-ten (or more) low-income customers use their kitchen stove or oven to heat their homes when they have insufficient money to pay their utility bills. Second, the extent to which these actions occur increases as incomes decrease in nearly every instance. Households with incomes less than 50% of the Poverty Level more frequently take these actions in almost every month or some months than do households with income at 100% to 150% of Poverty.

[85] Apprise, Inc., 2018 National Energy Assistance Survey, Final Report, available at RESOURCE LIBRARY – Selected Reports – Energy Survey Research and Policy Analysis – APPRISE – Applied Public Policy Research Institute for Study and Evaluation

Table 16. Energy Reduction Actions in Response to Inability-to-Pay
by Range of Federal Poverty Level
(each attributed to "not having enough money to pay energy bill")

	Closed Off Part of Home			Kept Temp at Unsafe or Unhealthy Level			Used Kitchen Stove or Oven to Heat		
	0-50%	51-100%	100-150%	0-50%	51-100%	100-150%	0-50%	51-100%	100-150%
Almost every month	10%	14%	7%	8%	3%	3%	1%	1%	1%
Some months	24%	13%	14%	18%	12%	10%	14%	11%	8%
1 – 2 months	12%	10%	11%	7%	8%	9%	22%	19%	14%
Never / No	54%	63%	67%	67%	76%	76%	63%	69%	77%
Don't know/refused	0%	0%	<1%	0%	1%	2%	0%	0%	1%

The households who are forced into engaging in these unsafe and unhealthy activities in their struggle to keep their home energy bills affordable are impeded in their efforts by the Company's proposal to increase its fixed monthly customer. FirstEnergy's proposal makes a higher part of the customer's monthly bill unavoidable through reduced consumption. Those low-income customers taking such actions, in other words, will face a smaller bill reduction as a result of their action should the FirstEnergy proposed increase in the fixed monthly customer charge be approved, potentially incentivizing more dangerous usage-reduction measures.

Q. TO WHAT EXTENT DO LOW-INCOME CUSTOMERS FACE AN INABILITY-TO-PAY?

A. In addition to my examination of energy burdens discussed above, I have also considered inability-to-pay by reference to Pennsylvania data report in the Census Bureau's most recent PULSE Household Survey. As of the time I write this testimony, the most recent

PULSE Household Survey was for the time period ending April 10, 2024.[86] While the Census Bureau does not report data for specific utility service territories, it does provide state-specific information or Pennsylvania.

The Pennsylvania PULSE Survey data shows that more than two-of-five Pennsylvania households (41.7%) with annual income less than $25,000 had a “very difficult” time paying for their usual household expenses “in the past seven days” (as of the time of the Survey). Nearly two-thirds of the Pennsylvania households (64.7%) at that income level had either a “very difficult” time or a “somewhat difficult” time paying their usual household expenses. As incomes increased, the difficulty in paying usual household expenses decreased, but nonetheless remained high. For households with annual income between $25,000 and $35,000, one-quarter (23.6%) had a “very difficult” time, but 53.6% had either a “very difficult” or a "somewhat difficult” time in paying their usual household expenses. It was not until annual incomes exceeded $35,000 that the percentage of households finding it “not at all difficult” or just “a little difficult” exceeded the percentage of households finding it “somewhat difficult” or “very difficult” to pay their usual household expenses.

[86] Available at: https://www.census.gov/data/tables/2023/demo/hhp/hhp56.html#:~:text=For%20Week%2056%20the%20Census,weighted%20response%20rate%20of%205.7%25.

Table 17. Difficulty Paying for Usual Household Expenses in Last 7 Days (Pennsylvania) (period ending April 1, 2024)

	Difficulty paying for usual household expenses in the last 7 days				
	Not at all difficult	A little difficult	Somewhat difficult	Very difficult	Total[87]
Less than $25,000	6.3%	27.9%	23.0%	41.7%	98.9%
$25,000 - $34,999	15.7%	33.8%	27.0%	23.6%	100%
$35,000 - $49,999	13.4%	39.6%	15.2%	28.9%	97.2%
$50,000 - $74,999	23.3%	33.3%	32.5%	10.9%	100%
$75,000 - $99,999	31.7%	39.2%	15.1%	14.0%	100%
$100,000 - $149,999	42.6%	32.0%	15.6%	9.9%	100%
$150,000 - $199,999	54.8%	27.7%	12.2%	5.3%	100%
$200,000 and above	80.5%	13.9%	4.1%	1.5%	100%

Given this PULSE Household Survey data, it is unreasonable to make it even more difficult for FirstEnergy's residential customers to be able to reduce their monthly utility bills by reducing their consumption.

Q. CAN YOU PLACE THE PROPOSED INCREASE IN THE RESIDENTIAL CUSTOMER CHARGE INTO SOME CONTEXT RELATING TO ITS IMPACT ON LOW-INCOME CUSTOMERS?

A. Yes. FirstEnergy serves an estimated 121,812 low-income customers in its customer base. An increase in the residential monthly customer charge from $11.25 to $14.50 imposes an increased financial burden on these customers of $39 per year (for Met-Ed, PenelecandPenn Power). The proposed increase in the West Penn Power customer charge from $7.44 to 11.50 would increase the annual bill for West Penn Power by $48.72 per year. Summing the four divisions, the Company's low-income customer base, therefore,

[87] Some totals do not equal 100% because some respondents did not report.

would be charged an additional $18,591,523 each year in unavoidable charges. Remember, this is *not* the total customer charge, but rather is *only* the *increase* in the customer charge.

To place this dollar figure in context, FirstEnergy's customers received $12,882,975 in LIHEAP cash grants[88] in the 2021 program year, $28,730,730 in cash grants in the 2022 program year,[89] and $19,030,73 in 2023.[90] For every $1 in LIHEAP funding that has been provided to FirstEnergy's low-income customers, therefore, the Company proposes to take between $0.98 (2023) and $1.44 (2021) away from those low-income customers in the form of an increased unavoidable fixed monthly customer charge.

Q. WHY ISN'T THIS PROBLEM ASSOCIATED WITH THE RATE INCREASE AS A WHOLE RATHER THAN ASSOCIATED WITH THE INCREASED CUSTOMER CHARGE IN PARTICULAR?

A. In part, the problem *is* associated with the rate increase when viewed as a whole. In large part, however, the problem is associated with the increased customer charge because there is nothing that a household can do to avoid this monthly fee. Even if low-income customers could reduce their usage, they would not be able to avoid any part of the proposed increase associated with the fixed monthly customer charge.

[88] FirstEnergy customers received additional LIHEAP Crisis funding. This funding, however, is not used to pay bills for current service, but rather used to help retire arrears which lead to the loss, or threatened loss, of service due to nonpayment disconnections.

[89] In the first three months of 2024, Columbia had 3,776 low-income customers participating in its PIP. (OCA-06-032).

[90] OCA-I-34. Since the 2024 program is not yet complete, the dollars of LIHEAP benefits year-to-date in the 2024 program year have been omitted.

Q. DOES FIRSTENERGY'S PROPOSED INCREASE TO THE RESIDENTIAL FIXED MONTHLY CUSTOMER CHARGE ALSO IMPEDE USING LOW-INCOME ENERGY EFFICIENCY TO REDUCE OVERALL BILL INCREASES?

A. Yes. The types of barriers to low-income investments in energy efficiency are precisely the types of barriers that are made even more problematic by an increase in the fixed monthly customer charge. In assessing these barriers to low-income energy efficiency investments, I matched the zip codes which FirstEnergy listed as comprising its service territory to Census data for the same zip codes.[91] This data analysis demonstrates that:

- FirstEnergy's zip codes have high penetrations of low-income and very low-income households.[92] At these income levels, FirstEnergy's customers have insufficient discretionary funds to invest in energy efficiency, even if such investments would be cost-effective in the short- or medium-term. The extent of low-income households in the FirstEnergy service territory was discussed in detail above. The increase in fixed monthly customer charges makes it more difficult for investments to be cost-effective, making the lack of discretionary investment income an even greater impediment.

- FirstEnergy's zip codes reveal high mobility within the low-income population. Mobility is primarily measured by the percentage of households that have changed residences within the past year.[93] Frequent mobility makes it more difficult for low-income households to invest in energy efficiency. A low-income household will not make an energy efficiency investment that has a three-year payback if that household does not expect to live in its home for three years. /the increase in fixed monthly customer charges makes it even more difficult for low-income customers to receive a timely payback.

- FirstEnergy's zip codes have an extremely high prevalence of low-income households with high and extremely high shelter burdens.[94] High burdens are shelter burdens that exceed 30% of income. Extremely high burdens are shelter burdens that exceed 50% of income. Data for the FirstEnergy service territory

[91] By matching zip codes, I can obtain data on households that is specific to the FirstEnergy service territory.
[92] The number of households by income are provided in Table B19001 of the American Community Survey (5-year data). The population by Poverty Level is provided in ACS Table C17002 (5-year).
[93] American Community Survey, 5-year, 2020, Table B07010.
[94] American Community Survey, 5-year, 2020, Table B25074.

demonstrates that as household incomes decrease, the prevalence of high shelter burdens, and extremely high shelter burdens, dramatically increase. High shelter burdens make it difficult for low-income households to invest in energy efficiency. A low-income household that is struggling to pay its underlying housing costs does not have the discretionary income to invest in usage reduction measures, even if that investment might be cost-effective. Since, by definition, fixed monthly customer charges cannot be reduced by reducing consumption, increasing the fixed monthly customer charge makes it less likely that energy efficiency investments would be cost-effective in a time period that would allow low-income households to recover their investment in a resource-constrained environment.

Q. HAVE YOU BEEN ABLE TO REVIEW THE HARMS THAT ARISE FOR LOW-INCOME CUSTOMERS AS A RESULT OF THEIR INABILITY TO RESPOND TO BILL UNAFFORDABILITY BY REDUCING BILLS THROUGH REDUCED USAGE?

A. Yes. I have examined various indicators of bill payment difficulties for low-income customers as compared to residential customers as a whole. The data is presented in the Table below. Overall, the payment patterns of FirstEnergy's Confirmed Low-Income customers are consistently worse than the payment patterns of the Company's residential customers as a whole. The percentage of accounts in arrears is consistently nearly two times higher for Confirmed Low-Income customers than for residential customers. The average arrearage level for Confirmed Low-Income customers is consistently substantially higher than the average arrearage level for residential customers as a whole. The fact that the Company disconnects service to Confirmed Low-Income customers at a rate five or more times higher than the overall residential disconnection rate was demonstrated above. The gross write-off rate for Confirmed Low-Income customers is consistently four to five times higher than it is for residential customers as a whole. The percent of accounts in arrears is from four to five times higher, while at the same time,

the average arrears for Confirmed Low-Income customers is significantly greater. As can be seen, the very customers for whom the Company is making it more difficult to respond to an inability-to-pay are those customers that have the greatest payment difficulties.

Table 18. FirstEnergy Collections: Residential vs. Confirmed Low-Income (2022)

	Residential				Confirmed Low-Income			
	ME	PN	PP	WP	ME	PN	PP	WP
Pct accounts in debt	10.2%	11.1%	9.3%	9.0%	38.2%	45.0%	47.4%	48.2%
Disconnection rate	5.6%	4.1%	2.2%	3.3%	24.6%	15.8%	10.8%	17.0%
Average arrears	$643	$685	$768	$694	$820	$848	$974	$919
Gross write-off	2.0%	2.4%	1.7%	1.8%	9.9%	9.5%	9.1%	10.2%

Q. DO THESE PAYMENT DIFFICULTIES COST LOW-INCOME CUSTOMERS ADDITIONAL MONEY IN INCREASED BILLS?

A. Yes. When low-income customers have an inability to pay their bills in a full and timely fashion, as is documented above, the Company's response is to increase those unpaid bills even further. The Company imposes a late payment charge of 1.5% a month on the full, unpaid balance. This monthly fee is an annualized fee of 19.56% per year.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the residential customer charge determined by OCA witness Pavlovic be adopted.

Part 6. Response to Specific Revenue Requirement Adjustments.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Company's request to include specific upward adjustments to the expenses that it would be allowed to charge to ratepayers. I

recommend that the Commission reject both of the following adjustments: (1) an upward adjustment based on the Company's speculation that proposed changes to Chapter 14 will have an adverse effect on the Company's uncollectible; and (2) an upward adjustment based on the Company's proposed Energy Assistance Outreach Team (EAOT).

A. Uncollectibles and Potential Changes to Chapter 14.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of m testimony, I respond to the FirstEnergy request to be compensated for possible changes in its level of uncollectibles based on its assessment of the impact of potential changes in Chapter 14. This request should be rejected. First Energy witness Jones testifies that "As a result, a number of changes to the collections procedures outlined in Chapter 14 have been proposed by the legislature. Because the test year ending December 31, 2025, will be used to project the Company's uncollectible accounts expense, these proposed changes, if accepted, could have a significant impact on these calculations as more fully described below."[95] Jones submitted a document dollarizing his calculations, stating "Specifically, this exhibit highlights the notable risks to uncollectible account expenses associated with these potential rule changes. . ."[96]

Q. WHY SHOULD THESE ADJUSTMENTS NOT BE APPROVED?

A. The adjustments proposed by FirstEnergy should be disapproved for a variety of reasons. First, the existence of the impacts propounded by FirstEnergy are entirely speculative. Even the testimony of witness Jones acknowledges that the "proposed changes" simply

[95] FirstEnergy St. 8, ay 12 (emphasis added).
[96] Id., at 13. (emphasis added).

"*could* have a significant impact." (emphasis added). Mr. Jones could not assert with certainty that the proposed changes, even should such changes be adopted, *would* have an impact, let alone provide a quantification of what impacts *will* occur. There is no agreement that any of the five "proposed" changes to Chapter 14 would have *any* impact on uncollectibles, let alone any agreement on the notion that such impacts (if any) would be "significant." The Commission's "Sixth Report to the General Assembly and the Governor Pursuant to Section 1415," regarding the implementation of Chapter 14, provides a detailed assessment of the impact of Chapter 14. As that report said:

> This report presents data and trends this Commission relied upon to evaluate the effectiveness of the law, including amendments that were passed in 2014 to reauthorize the law for an additional ten years. While the report shows evidence that Pennsylvania's utilities comply with the provisions of Chapter 14, review of collections variables and data indicate that utilities are not fully or effectively using all of the tools provided them by Chapter 14. Inadequate use of those provisions by utilities to fully collect customer debt should be considered in the evaluation of petitions for rate increases.
>
> Several of the key collections performance variables for the electric industry show mixed improvement since the passage of Chapter 14. Billings and the Total Dollars in Debt (Active and Inactive) increased slightly since 2004, but the Percentage of Billings in Debt decreased. The Total Customers in Debt (Active and Inactive) also increased, as did the Gross Write-Offs (Dollars), but the Percentage of Customers in Debt and the Gross Write-Offs Ratio decreased. Universal Service Program Costs for the electric industry have increased when compared to 2004.
>
> The key collections performance variables for the gas industry show overall improvement when compared to 2004. This improvement reflects the continuation of a trend that began in the pre-Chapter 14 period, likely attributable to the decrease in the cost of natural gas.[97]

The Commission continued to report to the General Assembly and the Governor that:

[97] Sixth Report to the General Assembly and Governor, at 1.

> Despite increases in several collection performance variables, data show that Chapter 14 provisions appear successful in improving customer access to utility services, including access to utility services for low-income customers. For example, since the passage of Chapter 14 in 2004, enrollment in universal service programs has increased. Although increased participation in these programs results in higher universal service costs, these costs are recoverable by the utilities and represent a pre-emptive alternative to the traditional costs of collections by helping the utilities manage customer debt.[98]

Multiple observations of the Commission in these introductory comments to the General Assembly and Governor are relevant to any decision on whether to reject FirstEnergy's claimed increase in uncollectibles. The Commission found evidence, for example, that "review of collections variables and data indicate that utilities are not fully or effectively using all of the tools provided them by Chapter 14." If that is true, FirstEnergy should not be permitted to increase rates because it failed to get what it wanted through the legislative process.

The Commission reported that "Several of the key collections performance variables for the electric industry show *mixed improvement* since the passage of Chapter 14." (emphasis added). The Commission reported that while Chapter 14 *may* have had some impact on collections, it had an offsetting impact on "access to utility service for low-income customers." By maintaining "access to utility service," Chapter 14 has allowed utilities such as FirstEnergy to retain revenue streams that they otherwise would have lost.

[98] Id.

Q. IS THERE GENERAL AGREEMENT ON THE DIRECTION, LET ALONE THE MAGNITUDE, OF ANY CHANGES THAT WOULD ARISE DUE TO A MODIFICATION OF CHAPTER 14?

A. No. Mr. Jones asserts that changes to Chapter 14 provisions relating to payment arrangements will increase FirstEnergy's uncollectibles. The Commission's report to the General Assembly, however, disagrees with that blanket assertion. The Commission told the legislature that the majority of consumer debt is not on arrangement; that Chapter 14 "severely restricted" the Commission's ability to issue payment arrangements; and that Debt on a payment arrangement is *less* likely to become uncollectible."[99] Accordingly, even while Mr. Jones is seeking to have FirstEnergy recover more money due to an increase in uncollectibles because of proposed changes to the Commission's ability to manage payment arrangements, the Commission told the General Assembly and Governor that the proposed "change may increase customer access to utility service and *reduce uncollectible customer debt*."[100]

Q. IS THERE ANY OTHER FUNDAMENTAL FLAW IN THE REASONING ADVANCED BY MR. JONES?

A. Yes. While Mr. Jones identified four aspects of modifications to Chapter 14 with which he disagrees, he does not present a comprehensive evaluation of the *total* impacts of changes, if any, to Chapter 14. Even assuming that Mr. Jones is correct that the four changes he isolates for his analysis will increase uncollectibles, an assumption that lacks any basis and should be rejected, there may be other modifications to Chapter 14 that would have the contrary effect. Mr. Jones should not be allowed to isolate those areas

[99] Id., at 4.
[100] Id.

where he believes modifications might increase costs without also acknowledging those modifications that would have a moderating effect on costs.

Indeed, in its Sixth Report, the Commission devotes considerable attention to the impact of Chapter 14 on the level of working capital. Offsetting expense reductions would not occur only in the realm of uncollectibles. Offsetting expense reductions could occur, also, in reduced working capital. It would be inappropriate to consider the increase in costs without also considering the decreases in costs (and enhancements in revenue).

Q. WHAT DO YOU FIND?

A. Modifications to Chapter 14 that have not occurred cannot be projected and at this point are merely speculative. Mr. Jones also has no firm basis to project that they will adversely affect uncollectibles, and his opinion is simply based on no more than his opinion of an adverse effect on uncollectibles that conflicts with that of the Commission. It is premature in this case to predict what impact any changes to Chapter 14 may have.

Q. DO YOU HAVE ANY FINAL OBSERVATION ABOUT THE REQUEST TO COLLECT PROJECTED INCREASES IN UNCOLLECTIBLES DUE TO POTENTIAL MODIFICATIONS IN CHAPTER 14?

A. At the same time that Mr. Jones is proposing to include an itemized increase in uncollectibles due to his projections of how, if at all, Chapter 14 may be modified, FirstEnergy is testifying in this proceeding about the variety of activities it is engaged in which it expects to make it easier for customers to pay their bills. As one example, adoption of the "fee free proposal" is argued by FirstEnergy to be designed to "mak[e] the payment process as easy as possible for customers to make payments –so as to try to remove barriers to payment and *help reduce or control uncollectible levels* to the benefit

of all of the Company's customers." (emphasis added)[101] In addition, FirstEnergy argued that each of the following improvements in the "customer experience" would help third-party customers make their payments: (1) the low-income programs implemented as a result of the Energy Efficiency Team; (2) the new and/or enhanced "technology" being used to "facilitate participation" in low-income programs; (3) the utilization of third-party vendors beginning in 2022 to reach communities via digital channels; and (4) the "new digital features for customers across the key customer journeys [including]. . .Payment/Billing."

When, however, FirstEnergy was asked to provide the calculation of the *reductions* in uncollectibles due to these initiatives, the Company responded that it "does not have reporting that disaggregates reductions to uncollectible expenses in an itemized format for each of the factors listed above. The factors above collectively influenced uncollectible expense[102] and it is unclear how such disaggregation could be accomplished."[103] Such disaggregation, however, is precisely what Mr. Jones is proposing for what he believes are potential modifications to Chapter 14. And, just as disaggregation for the stated factors cannot be accomplished, neither can the disaggregation of the impacts, let alone the net impacts, of changes in Chapter 14 be accomplished.

[101] FE St. 8, at 8.
[102] It should be noted that while FirstEnergy used the past tense in its response, as though these factors have already had an impact on uncollectibles, that would not be possible since many of these factors are first being proposed in this proceeding and did not exist in the past.
[103] OCA-II-39 (attached as Exhibit RDC-16).

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the adjustment proposed by OCA witness Dante Mugrace be adopted and that the proposed adjustment to uncollectibles relating to potential changes to Chapter 14, be denied.

B. The Proposed Energy Assistance Outreach Team.

Q. PLEASE IDENTIFY THE FIRSTENERGY PROPOSAL TO WHICH YOU ARE RESPONDING IN THIS SECTION OF YOUR TESTIMONY.

A. FirstEnergy proposes to create an Energy Assistance Outreach Team. According to the Company, "On a broad level, the team will educate low-income residential customers on the assistance programs and assist with the application process for assistance programs."[104] The Company continued to state that "More specifically, the team will: (1) be responsible for education, resources, navigation of tools/technology needed to reduce and/or eliminate customer barriers to program participation; (2) Work with customers, agencies, local charities, churches, and local governments to understand the types of available programs; (3) Help customers by sharing what information is required to participate in the different programs; (4) Participate in energy assistance fairs and organize additional events as necessary; and (5) Be a support system for agencies to assist with special situations or barriers.[105] The Company proposes seven dedicated staffpersons and one "shared resource" to staff the Outreach Team. The Company proposes a budget of $762,520 for the Outreach Team.[106] It proposes to "measure the impact of the [Energy Assistance Outreach Team] by monitoring the number of

[104] FirstEnergy St. 8, at 10.
[105] Id.
[106] Id.

customers enrolled in the Company's assistance programs and comparing it to historical numbers."[107]

Q. GIVEN YOUR CRITIQUE ABOVE OF THE COMPANY'S ENROLLMENT OF LOW-INCOME CUSTOMERS IN THE COMPANY'S CAP, WHY SHOULD THIS REQUEST FOR AN UPWARD ADJUSTMENT IN EXPENSES BE DENIED?

A. The FirstEnergy proposal should be rejected for two primary reasons. First, in responding to the under-enrollment of low-income customers in the Company's energy assistance programs, it is not an adequate response for the Company to say that it will simply "do more" of what has been ineffective in the past. Developing a response to the under-enrollment should involve a multi-step planning process. FirstEnergy has offered no indication that its proposed expenditure of $762,520 is based on any such process. The planning process should identify measurable outcome goals that the Company has set for enrollment; should identify the extent to which the Company has failed to achieve those goals; should identify the barriers which have prevented the Company from achieving those goals; should identify the action-steps which the Company proposes to undertake to overcome each of those barriers; and should explain the reasoning (in the parlance of evaluation, called the "logic-model") of how and why the specific action steps being proposed can be expected to address the identified barriers. Upon implementation of this process, the Company should articulate a periodic performance review (in the parlance of evaluation, a "feedback loop") to assess the degree to which, if at all, the proposed action steps have accomplished the articulated outcomes and, if not, why not. Upon identifying the strengths and weaknesses of the proposed action-steps,

[107] Id., at 12.

the planning process would begin anew (setting goals, identifying barriers, identifying steps to overcome those barriers, articulating the logic-model, and providing for a future feedback loop).

Each element of this process should precede a commitment of the substantial sum of money proposed by FirstEnergy. By analyzing the gap between where they are and where they need to be to achieve desired outcomes, FirstEnergy can target those processes that are in most need of improvement, set realistic improvement goals, and select an appropriate process improvement technique.

In short, an expenditure of this magnitude should be grounded in a rationalized planning process. No such process is evident for FirstEnergy's proposed Outreach Team. The FirstEnergy proposal is premature at best.

Q. IS YOUR DISCUSSION ABOVE CONSISTENT WITH ANY OTHER FIRSTENERGY TESTIMONY?

A. Yes. Company witness Wade Smith, in discussing the control of operating expenses generally, stated that "Having a plan of execution provides the framework to ensure you do what you say you are going to do, which is important to build credibility and to demonstrate integrity."[108] With FirstEnergy's proposal for an Energy Assistance Outreach Team, while the Company provides a summary list of what the Outreach Team will *do*, it has not identified what it expects the Outreach Team to *accomplish*. FirstEnergy concedes that "metrics have not been set for this team as of the date of this

[108] FirstEnergy St. 2, at 4.

response."[109] While the Company states that it "plans to use program enrollment numbers using historical information to compare year to year impact of the Energy Assistance Outreach Team," it has set no outcome goals for the Outreach Team.[110]

Q. WHAT IS THE SECOND REASON YOU RECOMMEND THAT THE FIRSTENERGY PROPOSAL BE DENIED?

A. The FirstEnergy request to recover the entire cost of the proposed Energy Assistance Outreach Team should be denied because the proposal places the entire burden of funding the Outreach Team on ratepayers, while allowing the financial benefits resulting from the Outreach Team to be captured by the utility. Obviously, improving the enrollment of low-income customers into energy assistance programs will benefit those low-income customers who receive such assistance. However, that enrollment will have further financial implications as well.

As I discussed in detail above, an inability-to-pay on the part of low-income customers translates into an inability-to-collect on the part of FirstEnergy. To the extent that low-income customers receive additional assistance to help them pay their bills, FirstEnergy, as their electricity supplier, will experience reduced costs (e.g., uncollectibles, credit and collection costs, working capital expenses) and enhanced revenues (e.g., fewer disconnections, shorter-term disconnections prior to reconnections, less frequent mobility). Even if those financial benefits will be flowed-through to ratepayers at the time of the next base rate case, they are captured in their entirety by investors in the meantime, even though ratepayers funded the activities to generate those benefits.

[109] OCA-II-03 (attached as Exhibit RDC-17)..
[110] OCA-II-04 (attached as Exhibit RDC-18).

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the adjustment proposed by OCA witness Dante Mugrace be adopted and that the proposed adjustment to fund the Energy Assistance Outreach Team be denied.

Rather than having this enhanced outreach funded by ratepayers, the outreach should be funded by shareholders in fulfillment of the agreements reached in the FirstEnergy merger proceeding.[111] To resolve that merger proceeding, a settlement was agreed to in which FirstEnergy made commitments regarding its low-income programs. One such commitment was to:

> recruit additional members to its USAC from groups such as local housing providers, food assistance providers, weatherization and home repair providers, community health clinics, domestic violence agencies, immigrant and refugee resettlement organizations, and other local community-based organizations serving low-income individuals and communities within the FE PA service territory.[112]

In the merger settlement, FirstEnergy also committed "to conducting outreach to all LIHEAP recipients identified in the data exchange that are not current PCAP participants to encourage enrollment in the program."[113] The Settlement provided that FirstEnergy would share with its Universal Services Advisory Committee information on "new outreach activities and efforts by FE PA."[114] There would be no need to "share" such information if no "new outreach activities and efforts" were contemplated.

[111] Joint Application of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, West Penn Power Company, Keystone Appalachian Transmission Company, Mid-Atlantic Interstate Transmission, LLC, and FirstEnergy Pennsylvania Electric Company, Docket Nos. A-2023-3038771, *et al.*
[112] Joint Petition for Approval of Settlement of All Issues, Docket Nos. A-2023-3038771, et al,, at para. 44 (August 30, 2023).
[113] Id., at para. 47.
[114] Id., at 42.

In contrast, the proposed Energy Assistance Outreach Team appears to seek new funding for the same basic activities. Company witness Jones states that one of the tasks of the new Outreach Team would be to "Work with customers, agencies, local charities, churches, and local governments to understand the types of available programs."[115] The proposed Outreach Team would also be "responsible for" (1) education, resources, navigation of tools/technology needed to reduce and/or eliminate customer barriers to program participation. (2) helping customers by sharing what information is required to participate in the different programs; and (3) participating in energy assistance fairs and organizing additional events as necessary.[116]

In sum, the costs of complying with the terms of the merger settlement should not be passed through as new costs to ratepayers in this proceeding. They should instead be paid by investors as part of the commitments made in settlement of the merger proceeding.

Part 7. Bad Debt Offset to CAP Credit Cost Recovery.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. The purpose of this section of my testimony is to the changes needed to reset the base participation rate for calculation of the offsets applicable to the cost recovery for FirstEnergy's universal service program through its Universal Service Cost Rider. The Universal Service Cost Rider currently states:

> In the event that the average annual CAP participation in the preceding USC Reconciliation Year exceeded ME: 16,700 participants, PN: 23,200

[115] FirstEnergy St. 8, at 10.
[116] Id.

> participants, PP: 5,000 participants, and WP: 23,300 participants, actual costs recovered through the USC Ride shall reflect CAP Credits and actual Pre-Program Arrearage Forgiveness Credit for all customers up to the ME: 16,700, PN: 23,200, PP: ,000, and WP: 2,300 participation levels. The Company shall offset the average annual CAP Credits and Pre-Program Arrearage Forgiveness credits by ME: 15%; PN: 14.7%; PP: 14.3%, and WP: 13.5% per participant for the preceding USC Reconciliation Year for any and all CAP customers exceeding the ME: 16,700, PN:23,200, PP: 5,000, and WP: 23,300 participation levels.[117]

I recommend that the base participation levels included in this Tariff be updated to reflect current data. These updates do not include changes to the percentage offsets included in the Tariff.

Q. UPON WHAT DO YOU BASE YOUR RECOMMENDED UPDATES TO THE BASE FIRSTENERGY PARTICIPATION RATES?

A. FirstEnergy was asked to provide the projected number of CAP participants in 2023 as well as for the next three years. Actual data was provided for 2023 and for 2024 (YTD through March). Company projections were provided for 2025 and 2026, as well as for the last nine months of 2024 (April through December). The data is set forth in the Table below.

Table 19. Average Annual Projected Participation Rates (2024 & 2025)[118]

	Med-Ed	Penelec	Penn Power	West Penn Power
2024	16,486	22,310	4,706	19,052
2025	14,539	20,083	4,001	16,762

As is evident, the base participation rates that are currently in the FirstEnergy Universal Service Cost Rider tariff have become dated over time. The numbers which the Tariff

[117] FirstEnergy Tariffs, Electric PA P.U.C. No. 1, Original Page 186.
[118] OCA-I-05 (attached as Exhibit RDC-19).

currently includes substantively over-state the projected base participation rate, whether for 2024 or for 2025. The base participation rate should reasonably reflect the expected participation for the year for which rates are being set. FirstEnergy's estimate of the impact of this rate case is based on a Fully Projected Future Test Year ending December 31, 2025.[119] Using the same FPFTY as the Company, itself, uses to project the impacts of its rate case would mean that the average annual CAP participation rate for the FPFTY ending December 31, 2025 should be used as the base participation.

Q. WHAT DO YOU RECOMMEND?

A. Using the Company's projections of average annual CAP participation for the year ending December 31, 2025, the Universal Service Rider should be modified to include the following base CAP participation: (1) MetEd: 14,539; (2) Penelec: 20,083; (3) Penn Power: 4,001; and (4) West Penn Power: 16,762.

Summary of Recommendations

Q. PLEASE SUMMARIZE THE RECOMMENDATIONS YOU MAKE THROUGHOUT YOUR TESTIMONY WHICH FOLLOWS.

A. Based on the data and analysis I present throughout my testimony below, I recommend that the Pennsylvania Public Utility Commission (PUC):

A. Based on the data and analysis I present throughout my testimony below, I recommend that:

- FirstEnergy modify its policies and procedures regarding the identification of "confirmed low-income" customers to conform with the PUC's regulations.

[119] FirstEnergy Statement of Reasons for the Proposed Rate Increase, at 1 ("The proposed rates set forth herein, if approved by the Pennsylvania Public Utility Commission ("PUC" or the "Commission"), would increase FE PA's annual jurisdictional distribution revenues by approximately $502 million or 34% based on a fully projected future test year ending December 31, 2025 ("FPFTY").")

FirstEnergy should include these modified policies and procedures in its residential tariff. The modified tariff should mirror the PUC regulations, which define "confirmed low-income residential accounts" as "Accounts where the EDC has obtained information that would reasonably place the customer in a low-income designation." While the definition for electric utilities does not provide the explanation that the definition for natural gas utilities does, the tariff should also incorporate the further guidance which can be obtained from the natural gas regulation which states in relevant part: This information may include receipt of LIHEAP funds (Low-Income Home Energy Assistance Program), *self-certification by the customer*, *income source* or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination).

- FirstEnergy add to each residential tariff under "Special Provisions," a new paragraph with the following language: "A confirmed low-income residential account, including applicants, will be afforded each protection accorded by tariff or regulation, which tariff or regulation applies to any customer or applicant with household income at or below 150% of the Federal Poverty Level."

- Prior to the disconnection of a Confirmed Low-Income customer, FirstEnergy adopt a procedure, developed in collaboration with its Universal Service Advisory Group (USAG), under which it will seek to make personal contact with the customer subject to disconnection. In that personal contact, the Company shall offer the Confirmed Low-Income customer the opportunity to apply for the Company's CAP and arrearage forgiveness program. This education should *also* include a recommendation and information to be provided both about LIHEAP, its benefits and how to apply, as well as Dollar Energy Fund and any other resources that may be available in the community that can also potentially help the customer to get reconnected. If the customer expresses a desire to make such application, FirstEnergy will postpone the disconnection for a reasonable period of time to allow the application process to be completed.

- Before FirstEnergy enters into a payment arrangement with a customer which the Company either: (1) knows to be a Confirmed Low-Income customer; or (2) has generated information through the payment arrangement process documenting that the customer is in the Income Tier at or below 150% FPL, it should be required to provide the customer a stand-alone Plain English notice to that customer of the customer's right to enter into CAP and an explanation of the advantages of CAP's arrearage forgiveness benefits. FirstEnergy should develop this Plain English notice in collaboration with its USAG.

- FirstEnergy adopt a procedure under which it will provide a stand-alone Plain English notice to customers found to be without heating service at the time of the Company's Cold Weather Survey of the customer's right to enter into CAP and an explanation of CAP's arrearage forgiveness benefits. FirstEnergy should develop the Plain English notice in collaboration with its Universal Service Advisory Group.

- When Confirmed Low-Income customers accrue an unpaid balance of $300, and at each $300 of incremental arrears thereafter, FirstEnergy provide a stand-alone written Plain English notice informing those customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

- In those instances where FirstEnergy would otherwise request a cash security deposit as set forth in its Tariff, the Company should, as an alternative to that deposit demand, provide a stand-alone written Plain English notice informing these customers of their right to enroll in the Company's CAP (along with an explanation of the advantages of CAP's arrearage forgiveness provisions).

- FirstEnergy extend the use of its speech analytics software to assist with the monitoring of phone calls involving, or potentially involving, universal service programs and other low-income customers. FirstEnergy should be directed to involve its USAG in the identification and selection of Low-Income and Universal Service Terms to be detected by the system in order to confirm that phone calls are properly being identified and handled. Regular six-month reports on the results of the Speech Analytics reviews should be provided to the USAG.

- In addition to providing the refunds discussed above, FirstEnergy should amend its tariff, and modify its implementing practices and procedures, to comply with the PUC regulation. The tariff should read: "The Company shall not require an applicant or customer to provide a cash deposit when the customer provides income documents or other information that he or she is eligible for state benefits based upon household income eligibility requirements that are consistent with those of the Company's customer assistance program." The Company should modify all policies and practices to be consistent with this new tariff language.

- FirstEnergy refund any cash security deposit received from, or decline to impose a cash security deposit on, any customer who is currently categorized as "Confirmed Low-Income" or who is enrolled in a Tier 1 payment arrangement. By definition, under the PUC's regulations, a Confirmed Low-Income customer is a customer who the Company has received information sufficient to give rise to a reasonable belief that the customer is low-income. Finally, any customer who has

provided income documents or other information, including self-attested information, to the Company that would qualify them for a Tier 1 payment arrangement should be recognized as a Confirmed Low-Income customers who is entitled to all of the protections provided by PUC regulations.

- FirstEnergy include in its tariff, and incorporate into its corresponding practices and procedures, that any customer who has previously posted a cash security deposit, and who is subsequently newly found to be low-income pursuant to the discussion above, is entitled to a refund of that deposit at the time they are newly recognized as being low-income.

- FirstEnergy include in its tariff the April 2024 order of the PUC, directing that the Company may apply an existing security deposit to the account balance only with the customer's informed consent. As part of obtaining this informed consent, FirstEnergy must explain to the customer how applying the security deposit to the account balance would impact the customer's monthly bill.

- Within three months after a final order in this proceeding, FirstEnergy should undertake a review of all customers from whom the Company currently holds deposits to determine whether they qualify for the exemption, and to make necessary refunds. The Company should report the results of this review to BCS as well as to its Universal Service Advisory Group.

- FirstEnergy incorporate the PUC regulation defining "confirmed low-income" customer into its tariff. The new tariff language would provide that "confirmed low-income customers" would include all "accounts where the Company has obtained information that would reasonably place the customer in a low-income designation. This information may include receipt of LIHEAP funds, self-certification by the customer, income source or information obtained in § 56.97(b) (relating to procedures upon rate-payer or occupant contact prior to termination)."

- FirstEnergy in modifying its tariff, along with its policies, practices and procedures regarding the identification of "confirmed low-income" customers to conform with the PUC's regulations, including self-certification of low-income status, the Company should include a list of public assistance programs, mutually agreed to by the Company and its USAG, participation in which would reasonably place the customer in a low-income designation. The Company should explicitly acknowledge that a customer ***may*** provide, but is ***not required*** to provide, either the household's actual dollar level of income and the household composition in order to provide sufficient information to reasonably place them in a low-income designation. Moreover, a customer need not go through the CAP

enrollment process in order to be recognized as a Confirmed Low-Income customer under the PUC regulation.

- The recommended residential customer charges advanced by OCA witness Pavlovic should be adopted.

- The Commission reject both of the following adjustments: (1) an upward adjustment based on the Company's speculation that proposed changes to Chapter 14 will have an adverse effect on the Company's uncollectible; and (2) an upward adjustment based on the Company's proposed Energy Assistance Outreach Team (EAOT).

- The costs of complying with the terms of the merger settlement relating to low-income program outreach should instead be paid by investors as part of the commitments made in settlement of the merger proceeding.

- Using the Company's projections of average annual CAP participation for the year ending December 31, 2025, the Universal Service Rider should be modified to include the following base CAP participation: (1) MetEd: 14,539; (2) Penelec: 20,083; (3) Penn Power: 4,001; and (4) West Penn Power: 16,762.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes, it does.

Direct Testimony of Roger Colton

Exhibit RDC-1

Exhibit RDC-1: Summary Vitae

Roger Colton
Fisher, Sheehan & Colton
Public Finance and General Economics
Belmont, MA

* *

Education:

J.D. (Phi Kappa Phi, Order of the Coif) University of Florida (1981)

M.A. (Regulatory Economics), McGregor School, Antioch University (1993)

B.A. Iowa State University (1975) (journalism, political science, speech)

Professional Experience:

Fisher, Sheehan and Colton, Public Finance and General Economics: 1985 – present.

As a co-founder of this economics consulting partnership, Colton provides services in a variety of areas, including regulatory economics, poverty law and economics, public benefits, fair housing, community development, energy efficiency, utility law and economics (energy, telecommunications, water/sewer), government budgeting, and planning and zoning.

Colton has testified in state and federal courts in the United States and Canada, as well as before regulatory and legislative bodies in more than forty (40) states. He is particularly noted for creative program design and implementation within tight budget constraints.

Professional Affiliations:

Past Chair:	Belmont Zoning By-law Review Working Committee (climate change)
Member:	Board of Directors, Massachusetts Rivers Alliance
Columnist:	Belmont Citizen-Herald
Producer:	Belmont Media Center: BMC Podcast Network
Host:	Belmont Media Center: Belmont Journal
Member:	Belmont Town Meeting
Vice-chair:	Belmont Light General Manager Screening Committee
Past Chair:	Belmont Goes Solar
Coordinator:	BelmontBudget.org (Belmont's Community Budget Forum)
Coordinator:	Belmont Affordable Shelter Fund (BASF)

Past Chair: Belmont Solar Initiative Oversight Committee
Past Member: City of Detroit Blue Ribbon Panel on Water Affordability
Past Chair: Belmont Energy Committee
Member: Massachusetts Municipal Energy Group (Mass Municipal Association)
Past Chair: Housing Work Group, Belmont (MA) Comprehensive Planning Process
Past Chair: Board of Directors, Belmont Housing Trust, Inc.
Past Chair: Waverley Square Fire Station Re-use Study Committee (Belmont MA)
Past Member: Belmont (MA) Energy and Facilities Work Group
Past Member: Belmont (MA) Uplands Advisory Committee
Past Member: Advisory Board: Fair Housing Center of Greater Boston.
Past Chair: Fair Housing Committee, Town of Belmont (MA)
Past Member: Aggregation Advisory Committee, New York State Energy Research and Development Authority.
Past Member: Board of Directors, Vermont Energy Investment Corporation.
Past Member: Board of Directors, National Fuel Funds Network
Past Member: Board of Directors, Affordable Comfort, Inc.
Past Member: National Advisory Committee, U.S. Department of Health and Human Services, Administration for Children and Families, Performance Goals for Low-Income Home Energy Assistance.
Past Member: Editorial Advisory Board, International Library, *Public Utility Law Anthology*.
Past Member: ASHRAE Guidelines Committee, GPC-8, *Energy Cost Allocation of Comfort HVAC Systems for Multiple Occupancy Buildings*
Past Member: National Advisory Committee, U.S. Department of Housing and Urban Development, Calculation of Utility Allowances for Public Housing.
Past Member: National Advisory Board: Energy Financing Alternatives for Subsidized Housing, New York State Energy Research and Development Authority.

Professional Associations:

National Association of Housing and Redevelopment Officials (NAHRO)
National Society of Newspaper Columnists (NSNC)
Association for Enterprise Opportunity (AEO)
Iowa State Bar Association
Energy Bar Association
Association for Institutional Thought (AFIT)
Association for Evolutionary Economics (AEE)
Society for the Study of Social Problems (SSSO)
Association for Social Economics

Books

Colton, *et al.,* ***Access to Utility Service***, National Consumer Law Center: Boston (4th edition 2008).

Colton, *et al.*, ***Tenants' Rights to Utility Service***, National Consumer Law Center: Boston (1994).

Colton, ***The Regulation of Rural Electric Cooperatives***, National Consumer Law Center: Boston (1992).

Book Chapters

Colton (2018). The equities of efficiency: distributing energy usage reduction dollars, Chapter in Energy Justice: US and International Perspectives (Edited by Raya Salter, Carmen Gonzalez and Elizabeth Ann Kronk Warner), Edward Elgar Publishing (London, England).

Journal Publications

65 publications in industry and academic journals, primarily involving utility regulation and affordable housing. (list available upon request)

Technical Reports

200 technical reports for public-sector and private-sector clients (list available upon request)

Jurisdictions in which Expert Witness Provided

1. Maine	17. Tennessee	33. Montana
2. New Hampshire	18. Kentucky	34. Colorado
3. Vermont	19. Ohio	35. New Mexico
4. Massachusetts	20. Indiana	36. Arizona
5. Rhode Island	21. Michigan	37. Utah
6. Connecticut	22. Wisconsin	38. Idaho
7. New Jersey	23. Illinois	39. Nevada
8. Maryland	24. Minnesota	40. Washington
9. Pennsylvania	25. Iowa	41. Oregon
10. Washington D.C.	26. Missouri	42. California
11. Virginia	27. Kansas	43. Hawaii
12. North Carolina	28. Louisiana	**Canadian Provinces**
13. South Carolina	29. Arkansas	1. Nova Scotia
14. Florida (Federal Court)	30. Texas (Federal Court)	2. Ontario
15. Alabama	31. South Dakota	3. Manitoba
16. Mississippi	32. North Dakota	4. British Columbia

Direct Testimony of Roger Colton

Exhibit RDC-2

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set I, No. 22

"Please provide a detailed explanation of, and a copy if the procedure or process is set forth in a written document, of the procedure or process used by the Company to determine the income of a residential customer seeking to enter into a deferred payment arrangement for purposes of determining the length of the payment plan pursuant to Chapter 14, section 1405(b). If the response differs by operating company, identify the distinctions that exist."

RESPONSE:

Customers seeking a deferred payment arrangement are asked if they are willing to discuss income by completing a financial summary to see if they qualify. See FE PA Response to OCA Set I, No. 20 for an explanation of the financial summary process. If the customer chooses not to complete the financial summary, the length of their payment plan will be negotiated as a Level D (also known as a Level 4) income level. For the written procedure, see FE PA Response to OCA Set I, No. 22 CONFIDENTIAL Attachment A.

Direct Testimony of Roger Colton

Exhibit RDC-3

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set I, No. 20

"Please provide a detailed written description of how the Company confirms a customer's income-eligibility for cold weather shutoff protections, including a detailed list of the information accepted to confirm the customer's income-eligibility."

RESPONSE:

Low-income eligibility for cold weather shutoff protections is confirmed through a financial summary or the "confirmed income" process, see FE PA Response to OCA Set I, No. 019. To complete a financial summary, customers provide the number of people in the household and the total adult income information. This information is then used to establish an income level based on Federal Poverty Guidelines. Written documentation of income information is not requested or required to complete a financial summary.

Direct Testimony of Roger Colton

Exhibit RDC-4

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set I, No. 78

"Please provide a detailed description of the internal processes, procedures, or practices employed to determine what terms, phrases, or other speech patterns will be employed in the application of the speech pattern analytics or linguistic analytics software to the review of call center calls within the immediately preceding 36 months. If the response differs by operating company, identify the distinctions that exist."

RESPONSE:

FE PA both proactively, and upon request, will determine and identify words and phrases associated with a need in order to monitor customer experience as it relates to a process change, event, or communication. These requests can be made by various departments, such as Legal, Compliance, Customer Experience Leadership to deep dive into customer's pain points, key issues, and adherence to processes. A business need to investigate an impact to call volume or customer experience drives the frequency. An analyst identifies words and/or key phrases using applicable procedures, or the scripting of a particular communication, customer correspondences, or based on what the customers or agents are saying. A search is then conducted on those specific words or phrases to identify applicable calls, information about those calls, and similar phrases associated with it. After reviewing call center calls for a speech analytics request, word clouds are deployed to identify key terms, phrases, or other speech patterns. Once a trend is identified, a more robust deep dive into the findings is then undertaken to validate findings and respond to the holistic customer experience.

Speech pattern analytics and linguistic analytics software are used to identify key terms, phrases, or speech patterns and are not routinely used to actively look for terms, phrases, or other speech patterns. The software is instead utilized on an ad hoc basis to determine customer pain points during significant call volume spikes or during other market disruptor scenarios, such as storms, so that we may best determine how to proactively assist our customer base.

The following are examples of how speech analytics are used: Queries/Categories for ad hoc requests, key word searches to be included in word clouds, QA scripting phrases for procedural compliance, and scorecard reports and categories. Example terms and phrases include: "PA Satisfaction", "Check-Free", "eBill", "AllConnect", "Password", "Login", "IVR", etc.

Direct Testimony of Roger Colton

Exhibit RDC-5

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set I, No. 79

"For any software used by the Company which engages in speech pattern analytics or linguistic analytics, please identify:

a. Each month in which the phrases, terms or other speech patterns searched for by the software were modified;

b. The cost of making such modifications for each month in which modifications were made.

If the response differs by operating company, identify the distinctions that exist."

RESPONSE:

a. FE PA performs searches for phrases, terms or other speech patterns using the software on an ad hoc basis. It does not require any modifications because new searches are created with each request. The ad hoc requests, as well as the phrases, terms or other speech patterns are not tracked.
b. FE PA has not had any applicable charges associated with software modifications as it pertains to phrases, terms or other speech patterns searched because new searches are created with each request and there is no cost associated with this.

Direct Testimony of Roger Colton

Exhibit RDC-6

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

COALITION FOR AFFORDABLE UTILITY SERVICES AND ENERGY EFFICIENCY IN PENNSYLVANIA Set I, No. 4

"Please identify all categories or identifiers that FE PA includes when calculating its "confirmed low income customer" count for the purposes of reporting pursuant to 52 Pa. Code § 54.75. If FE PA uses a different definition or categorization criteria for "confirmed low income customer" for any purpose, please identify the alternative definition and/or criteria and explain why a different definition is used."

RESPONSE:

FE PA uses the reported income levels from Pennsylvania Customer Assistance Program (PCAP) enrollments, Low Income Home Energy Assistance Program (LIHEAP) grants, and payment arrangements to calculate the confirmed low-income customers for the purposes of the annual reporting pursuant to 52 Pa. Code § 54.75.

For security deposit exemption, the Company defines "confirmed low-income" as customers who enrolled on the (PCAP) or received (LIHEAP).

Direct Testimony of Roger Colton

Exhibit RDC-7

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set I, No. 21

"Please provide a detailed description of:

a. The "income documents or other information" that a customer can provide to the Company to establish that he or she is eligible for state benefits based upon household income eligibility requirements that are consistent with those of the public utility's customer assistance program, for purposes of establishing the customer's exemption from a cash security deposit.
b. How the "income documents or other information" differs, if at all, if provided by an applicant rather than by a customer.

If the response differs by operating company, identify the distinctions that exist."

RESPONSE:

a. The Company does not require documentation from customers to waive security deposits. If a customer receives PCAP or LIHEAP, security deposits are automatically waived and additional documentation is not required.
b. There is no difference in the process between an applicant or a customer.

Direct Testimony of Roger Colton

Exhibit RDC-8

OCA Set 2 "Reference: FE St. 1, at page 10: By month for each month January 2019 to the present inclusive, please provide:

Question 5c. The number of Confirmed Low-Income customers with deposits;

Low Income Customers with Security Deposits	2019	2020	2021	2022	2023	2024
January	696	690	771	1873	4296	8838
February	844	578	760	2006	4469	9413
March	1114	661	745	2383	5267	9806
April	1755	878	770	2386	5623	-
May	1843	602	752	2811	6029	-
June	1851	529	774	2866	6177	-
July	1860	535	860	3071	6567	-
August	1867	617	1008	3433	7223	-
September	1899	732	1346	3632	7567	-
October	2062	660	1551	3931	7751	-
November	2248	705	1712	4132	8143	-
December	999	724	1665	4174	8489	-
Year total	**19038**	**7911**	**12714**	**36698**	**77601**	**28057**

FE PA does not store this type of data alongside of historical time-sliced indicators for confirmed low-income.
As such, the confirmed low-income data was disaggregated using a separate list of confirmed low-income accounts.

OCA Set 2 "Reference: FE St. 1, at page 10: By month for each month January 2019 to the present inclusive, please provide:

Question 5e. The number of customers newly identified as Confirmed Low-Income customers;

Question 5f. The total number of Confirmed Low-Income customers;

Confirmed Low Income Customers	2019	2020	2021	2022	2023	2024
January	978	1684	1574	1418	1989	7519
February	871	1449	1384	1381	679	5874
March	1639	1549	1801	1378	10988	7801
April	2690	1912	1799	1440	3658	-
May	893	2684	1684	2308	5375	-
June	496	1130	1447	2408	3886	-
July	681	1000	1316	1813	1231	-
August	734	1207	1287	11558	2350	-
September	667	1791	5396	1499	3020	-
October	1996	2441	2188	2340	14109	-
November	5849	2142	1833	2924	7300	-
December	3999	2303	1786	2949	6094	-
Year total	**21493**	**21292**	**23495**	**33416**	**60679**	**25193**

FE PA does not store this type of data alongside of historical time-sliced indicators for confirmed low-income.
As such, the confirmed low-income data was disaggregated using a separate list of confirmed low-income accounts.

OCA Set 2 "Reference: FE St. 1, at page 10: By month for each month January 2019 to the present inclusive, please provide:

Question 5g The number of customers newly identified as eligible for winter shutoff protections;

Customers Eligible for Winter Protection	2019	2020	2021	2022	2023	2024
January	4934	6384	7174	5905	7103	11920
February	5370	6353	5072	6451	7924	13766
March	7428	8504	5785	8801	13288	23439
April	13437	9893	9950	14497	17460	
May	9526	4569	8946	10188	14937	
June	8051	3610	6340	9388	14555	
July	9201	2810	6104	10711	16216	
August	8744	3856	6649	11222	18012	
September	8868	4915	7755	12069	16560	
October	9232	3918	8104	9922	18041	
November	6711	6752	8186	7466	12064	
December	4760	8689	6918	6558	10954	
Year total	**96262**	**70253**	**86983**	**113178**	**167114**	**49125**

Direct Testimony of Roger Colton

Exhibit RDC-9

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 5

"Reference: FE St. 1, at page 10: By month for each month January 2019 to the present inclusive, please provide:

a. The number of Confirmed Low-Income customers having newly requested new (in contrast to expanded) deposits waived;

b. The number of Confirmed Low-Income customers having newly requested expanded deposits waived;

c. The number of Confirmed Low-Income customers with deposits;

d. The number of deposits refunded to Confirmed Low-Income customers;

e. The number of customers newly identified as Confirmed Low-Income customers;

f. The total number of Confirmed Low-Income customers;

g. The number of customers newly identified as eligible for winter shutoff protections;

h. The number of newly Confirmed Low-Income customers with deposits whose service was disconnected for nonpayment;

i. The number of disconnected Confirmed Low-Income customers whose service was reconnected with a new or expanded deposit requested and/or collected (in whole or in part) at the time of reconnection;

j. The number of disconnected Confirmed Low-Income customers having posted a deposit whose service was reconnected with no change in the deposit being held."

RESPONSE:

a. FE PA does not differentiate between new and expanded deposits waived for customers.

b. FE PA does not differentiate between new and expanded deposits waived for customers.

c. See FE PA Response to OCA Interrogatory Set II, No. 5, Attachment A.

d. FE PA does not maintain reports or track the number of deposits refunded to Confirmed Low-Income customers.

e. See FE PA Response to OCA Interrogatory Set II, No. 5, Attachment A.

f. See FE PA Response to OCA Interrogatory Set II, No. 5, Attachment A.

g. See FE PA Response to OCA Interrogatory Set II, No. 5, Attachment A.

h. FE PA does not maintain reports or track the number of newly Confirmed Low-Income customers with deposits whose service was disconnected for nonpayment.

i. FE PA does not maintain reports or track the number of disconnected Confirmed Low-Income customers whose service was reconnected with a new or expanded deposit requested and/or collected (in whole or in part) at the time of reconnection.

j. FE PA does not maintain reports or track the number of disconnected Confirmed Low-Income customers having posted a deposit whose service was reconnected with no change in the deposit being held.

Direct Testimony of Roger Colton

Exhibit RDC-10

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 7

"By month for the most recent 12 months available, please provide:

a. The number of customers who are currently on Tier 1 payment arrangements (i.e., for customers with income at or below 150% Federal Poverty Level);

b. Who are on a Tier 1 payment arrangements and have been identified as a Confirmed Low-Income customer;

c. Who are on a Tier 1 payment arrangement and have not been identified as a Confirmed Low-Income customer."

RESPONSE:

a. See FE PA Response to OCA Interrogatory Set II, No. 7, Attachment A.
b. See FE PA Response to OCA Interrogatory Set II, No. 7, Attachment B.
c. See FE PA Response to OCA Interrogatory Set II, No. 7, Attachment C.

	2023										2024		
OPCO	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
ME	8,389	8,458	8,015	8,055	8,107	8,192	8,215	7,890	7,748	7,837	7,874	8,013	8,434
PN	9,011	9,362	8,714	8,730	9,054	9,232	9,409	8,968	8,731	8,705	8,734	8,736	9,075
PP	2,143	2,207	2,010	2,013	2,066	2,086	2,134	2,056	2,024	1,971	1,947	1,975	2,092
WPP	8,630	8,936	8,487	8,514	8,533	8,744	8,791	8,403	8,260	8,209	8,174	8,315	8,671
Grand Total	**28,173**	**28,963**	**27,226**	**27,312**	**27,760**	**28,254**	**28,549**	**27,317**	**26,763**	**26,722**	**26,729**	**27,039**	**28,272**

Direct Testimony of Roger Colton

Exhibit RDC-11

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 7

"By month for the most recent 12 months available, please provide:

a. The number of customers who are currently on Tier 1 payment arrangements (i.e., for customers with income at or below 150% Federal Poverty Level);

b. Who are on a Tier 1 payment arrangements and have been identified as a Confirmed Low-Income customer;

c. Who are on a Tier 1 payment arrangement and have not been identified as a Confirmed Low-Income customer."

RESPONSE:

a. See FE PA Response to OCA Interrogatory Set II, No. 7, Attachment A.
b. See FE PA Response to OCA Interrogatory Set II, No. 7, Attachment B.
c. See FE PA Response to OCA Interrogatory Set II, No. 7, Attachment C.

	2023										2024		
OPCO	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
ME	2,345	2,418	2,171	2,183	2,240	2,279	2,230	1,990	1,822	1,745	1,666	1,641	1,750
PN	3,154	3,422	3,023	3,032	3,279	3,420	3,501	3,125	2,894	2,694	2,578	2,545	2,560
PP	54	54	47	44	46	45	52	50	52	52	46	47	55
WPP	2,963	3,202	2,908	2,908	3,105	3,251	3,273	2,975	2,743	2,541	2,400	2,386	2,437
Grand Total	**8,516**	**9,096**	**8,149**	**8,167**	**8,670**	**8,995**	**9,056**	**8,140**	**7,511**	**7,032**	**6,690**	**6,619**	**6,802**

	2023										2024		
OPCO	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
ME	6,044	6,040	5,844	5,872	5,867	5,913	5,985	5,900	5,926	6,092	6,208	6,372	6,684
PN	5,857	5,940	5,691	5,698	5,775	5,812	5,908	5,843	5,837	6,011	6,156	6,191	6,515
PP	2,089	2,153	1,963	1,969	2,020	2,041	2,082	2,006	1,972	1,919	1,901	1,928	2,037
WPP	5,667	5,734	5,579	5,606	5,428	5,493	5,518	5,428	5,517	5,668	5,774	5,929	6,234
Grand Total	**19,657**	**19,867**	**19,077**	**19,145**	**19,090**	**19,259**	**19,493**	**19,177**	**19,252**	**19,690**	**20,039**	**20,420**	**21,470**

Direct Testimony of Roger Colton

Exhibit RDC-12

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 8

"By month for the most recent 12 months available, please provide the number of customers who are on a Tier 1 payment arrangement (i.e., for customers with income at or below 150% Federal Poverty Level) and:

a. For whom FirstEnergy holds a cash security deposit;

b. For whom FirstEnergy does not hold a cash security deposit;

c. Who are identified as eligible for winter shutoff protections;

d. Who are not identified as eligible for winter shutoff protections."

RESPONSE:

A. See FE PA Response to OCA Interrogatory Set II, No. 8, Attachment A.
B. See FE PA Response to OCA Interrogatory Set II, No. 8, Attachment B.
C. All customers eligible for Tier 1 payment arrangements are also eligible for winter shut off protections; see FE PA Response to OCA Interrogatory Set II, No. 7, Attachment A for number of customers.
D. See response to subpart C above.

	2023										2024		
OPCO	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
ME	3,812	3,855	3,654	3,675	3,693	3,754	3,749	3,708	3,720	3,817	3,871	3,922	4,058
PN	3,403	3,514	3,268	3,274	3,359	3,414	3,479	3,436	3,389	3,488	3,546	3,547	3,628
PP	868	879	807	783	783	792	793	788	789	791	789	780	785
WPP	3,480	3,616	3,433	3,417	3,340	3,383	3,452	3,420	3,450	3,536	3,530	3,596	3,667
Grand Total	**11,563**	**11,864**	**11,162**	**11,149**	**11,175**	**11,343**	**11,473**	**11,352**	**11,348**	**11,632**	**11,736**	**11,845**	**12,138**

	2023										2024		
OPCO	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
ME	4,577	4,603	4,361	4,380	4,414	4,438	4,466	4,182	4,028	4,020	4,003	4,091	4,376
PN	5,608	5,848	5,446	5,456	5,695	5,818	5,930	5,532	5,342	5,217	5,188	5,189	5,447
PP	1,275	1,328	1,203	1,230	1,283	1,294	1,341	1,268	1,235	1,180	1,158	1,195	1,307
WPP	5,150	5,320	5,054	5,097	5,193	5,361	5,339	4,983	4,810	4,673	4,644	4,719	5,004
Grand Total	**16,610**	**17,099**	**16,064**	**16,163**	**16,585**	**16,911**	**17,076**	**15,965**	**15,415**	**15,090**	**14,993**	**15,194**	**16,134**

Direct Testimony of Roger Colton

Exhibit RDC-13

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 9

"For all customers identified in response to Question 8(a) and/or Question 8(c) above, please provide:

a. The aggregate cash security deposit held from that group of customers;

b. The average cash security deposit held from that group of customers."

RESPONSE:

a. See FE PA Response to OCA Interrogatory Set II, No. 9, Attachment A.

b. See FE PA Response to OCA Interrogatory Set II, No. 9, Attachment B.

	2023										2024		
OPCO	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
ME	$ 1,017,297	$ 1,038,031	$ 991,800	$ 997,837	$ 999,456	$ 1,012,299	$ 1,009,553	$ 999,266	$ 1,013,932	$ 1,035,439	$ 1,048,317	$ 1,069,562	$ 1,122,653
PN	$ 834,264	$ 865,662	$ 819,003	$ 831,270	$ 851,130	$ 870,949	$ 874,685	$ 865,931	$ 858,444	$ 880,314	$ 899,497	$ 902,192	$ 942,319
PP	$ 210,606	$ 215,955	$ 202,497	$ 197,673	$ 197,895	$ 201,366	$ 200,822	$ 200,992	$ 200,036	$ 203,238	$ 200,366	$ 199,247	$ 199,821
WPP	$ 841,749	$ 878,675	$ 842,465	$ 851,186	$ 840,024	$ 844,873	$ 859,279	$ 861,506	$ 871,636	$ 892,865	$ 889,181	$ 906,150	$ 935,958
Grand Total	**$ 2,903,916**	**$ 2,998,324**	**$ 2,855,766**	**$ 2,877,966**	**$ 2,888,505**	**$ 2,929,487**	**$ 2,944,339**	**$ 2,927,695**	**$ 2,944,048**	**$ 3,011,856**	**$ 3,037,360**	**$ 3,077,151**	**$ 3,200,751**

Direct Testimony of Roger Colton

Exhibit RDC-14

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 9

"For all customers identified in response to Question 8(a) and/or Question 8(c) above, please provide:

a. The aggregate cash security deposit held from that group of customers;

b. The average cash security deposit held from that group of customers."

RESPONSE:

a. See FE PA Response to OCA Interrogatory Set II, No. 9, Attachment A.

b. See FE PA Response to OCA Interrogatory Set II, No. 9, Attachment B.

	2023												2024		
OPCO	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**
ME	$ 267	$ 269	$ 271	$ 272	$ 271	$ 270	$ 269	$ 269	$ 273	$ 271	$ 271	$ 273	$ 277
PN	$ 245	$ 246	$ 251	$ 254	$ 253	$ 255	$ 251	$ 252	$ 253	$ 252	$ 254	$ 254	$ 260
PP	$ 243	$ 246	$ 251	$ 252	$ 253	$ 254	$ 253	$ 255	$ 254	$ 257	$ 254	$ 255	$ 255
WPP	$ 242	$ 243	$ 245	$ 249	$ 252	$ 250	$ 249	$ 252	$ 253	$ 253	$ 252	$ 252	$ 255
Grand Total	**$ 251**	**$ 253**	**$ 256**	**$ 258**	**$ 258**	**$ 258**	**$ 257**	**$ 258**	**$ 259**	**$ 259**	**$ 259**	**$ 260**	**$ 264**

Direct Testimony of Roger Colton

Exhibit RDC-15

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set I, No. 19

"Please provide a detailed written description of how the Company "confirms" the low-income status of the Company's customers, including a detailed list of the information accepted to confirm low-income status. If the response differs by operating company, identify the distinctions that exist."

RESPONSE:

FE PA defines "confirmed low-income customers" as customers whose household income is at or below 150% of the Federal Poverty Guidelines. "Confirmed low-income" status is based on the Pennsylvania Department of Human Services data regarding customer income levels collected through the Low Income Home Energy Assistance Program ("LIHEAP") grant process, or income documents verified through the Company's Pennsylvania Customer Assistance Program ("PCAP") enrollment process.

Eligibility is determined by applying online at pabillassist.com or by contacting Dollar Energy Fund at 888-282-6816. Dollar Energy Fund then evaluates the household and income information submitted by the customer during the application process to determine income-eligibility for the PCAP and/or WARM programs. Income documents may be submitted for the last 30 days or 12 months, whichever is most beneficial to determine their true annual income. Income is neither counted nor requested for household members under 18 years of age. Below is a list of documents requested as proof of income.

Types of Income	Acceptable Proof
Black Lung Benefits	Statement from Coal Mine Workers' Compensation of expected benefit
Employment - Salary or Wages	Pay stubs to cover last 30-day period, letter from employer
Military Pay	Copy of Military pay receipt or copy of direct deposit statement
Pension	Copy of pension check with attached stub indicating gross income Letter from Pension Board, 1099 tax form, or bank statement
Public Assistance - Department of Public Welfare (TANF)	Benefits Letter from current year or Printout of benefits received from Department of Human Services

Rental Income	Tenant Lease(s), Notarized Statement - Must include the amount the tenant is required to pay each month for rent, or rent receipts
Retirement Savings	401k, 403b, IRA, and Annuities - copy of 1099 tax form required Roth IRA - copy of form 5498 from bank
Self-Employment	Current Tax Return Documentation - Form 1040 & associated Schedule (C, K, SE, S, etc.), Quarterly statement from accountant, or 1099 tax form
Short Term Disability	Letter of determination, Copy of disability check, or bank statement
Social Security - Retirement, Disability, Supplemental Security Income (SSI), (adults)	Copy of letter from Social Security Administration, benefit statement from current year, 1099 tax form, or bank statement - To obtain a copy of a benefit letter, visit ssa.gov/myaccount or call 1-800-772-1213.
Unemployment Compensation	Statement from Unemployment Compensation of expected benefit from current year, unemployment printout, or bank statement
Veterans' Benefits	Copy of letter from Veterans Administration, benefit statement from current year, or bank statement - Visit va.gov/records/download-va-letters or call 1-800-827-1000.
Workers' Compensation	Statement from Workers' Compensation of expected benefit, letter of determination, copy of check, or bank statement

Direct Testimony of Roger Colton

Exhibit RDC-16

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 39

"Reference: FE Exh. MAJ-1 (pages 1 – 5): Please provide in an active Excel format with all formulae intact, the calculation of the *reductions* in uncollectible expenses attributable to:

a. The Energy Assistance Outreach Team;

b. The low-income programs implemented as a result of the Energy Efficiency Team;

c. The new and/or enhanced "technology" being used to "facilitate participation" in low-income programs.

d. The utilization of third party vendors beginning in 2022 to reach communities via digital channels,

e. The increased participation in CAP;

f. The increased participation in LIHEAP;

g. The "new digital features for customers across the key customer journeys [including]. . .Payment/Billing."

h. Adoption of the "fee free" proposal, which is designed to "mak[e] the payment process as easy as possible for customers to make payments - so as to try to remove barriers to payment and help reduce or control uncollectible levels to the benefit of all of the Company's customers."

RESPONSE:

FE PA does not have reporting that disaggregates reductions to uncollectible expenses in an itemized format for each of the factors listed above. The factors above collectively influenced uncollectible expense and it is unclear how such disaggregation could be accomplished.

Direct Testimony of Roger Colton

Exhibit RDC-17

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 3

"Reference: FE St. 1, at page 10: Consistent with the testimony in FE Statement 2, at page 4, that you need a "plan" "to ensure you do what you say you will do," please provide specifically with respect to the Energy Assistance Outreach Team's identification of what it "says it will do":

a. The outcomes sought with respect to identifying Confirmed Low-Income customers;

b. The outcomes sought with respect to identifying customers eligible for winter shutoff protections;

c. The outcomes sought with respect to identifying customers eligible for deposit waivers;

d. The outcomes sought with respect to identifying customers eligible for LIHEAP;

e. The outcomes sought with respect to identifying customers to enroll in CAP."

RESPONSE:

a.-e. FE PA plans to utilize the Energy Assistance Outreach Team to work closely with state and local agencies to increase awareness and enrollment numbers in all available programs. The team will communicate and meet regularly with these partners to gather information, plan community events, educate customers on available programs (LIHEAP, CAP, Hardship Funds, etc), and ensure low-income customers receive all programs for which they are eligible, including any potential deposit waiver or shutoff protections. The team will also work diligently to assist the agency partners with any potential barriers the agency may have when working with FE PA while assisting customers. Specific metrics have not been set for this team as of the date of this response.

Direct Testimony of Roger Colton

Exhibit RDC-18

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set II, No. 4

"Reference: FE St. 1, at page 10: Consistent with the testimony in FE Statement 2, at page 4, that you need a plan "to ensure that you do what you say you will do," please identify all metrics FirstEnergy will use to measure whether it is "doing what you say you will do" with respect to the Energy Assistance Outreach Team regarding:

a. Identifying Confirmed Low-Income customers;

b. Identifying customers eligible for winter shutoff protections;

c. Identifying customers eligible for deposit waivers;

d. Identifying customers eligible for LIHEAP;

e. Identifying customers to enroll in CAP."

RESPONSE:

In response to a, d, and e, FE PA plans to use program enrollment numbers using historical information to compare year to year impact of the Energy Assistance Outreach Team. The company will also explore new metrics as they become available.

In response to b and c: For the purposes of the Energy Assistance Outreach Team, the number of customers eligible for winter shutoff protections or deposit waivers are not planned metrics. Customers enrolled on Pennsylvania Customer Assistance Program (PCAP) or Low Income Home Energy Assistance Program (LIHEAP) are confirmed as Low-Income and are automatically eligible for both the deposit waiver process and winter shutoff protections.

Direct Testimony of Roger Colton

Exhibit RDC-19

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set I, No. 5

"In Excel format, by month for the Historic Test Year and for the next three projected years, provide the projected number of CAP participants. Provide for FirstEnergy as a whole and for each operating Company."

RESPONSE:

See FE PA Response to OCA Interrogatory Set I, No. 5 Attachment A.

PCAP Projected Participants *

Company/Rate District	Year	January	February	March	April	May	June	July	August	September	October	November	December	
Met-Ed	2026	15,343	15,388	15,432	15,477	15,522	15,567	15,612	15,657	15,703	15,748	15,794	15,840	
Met-Ed	2025	13,803	13,932	14,063	14,196	14,329	14,464	14,600	14,737	14,875	15,015	15,156	15,299	14,539
Met-Ed	2024	20,988	19,982	17,756	17,343	17,073	16,632	15,684	15,275	14,861	14,459	14,100	13,674	16,486
Met-Ed	2023	21,247	20,822	21,297	21,735	21,899	22,370	22,491	22,534	22,879	22,789	22,224	21,552	21,987
Penelec	2026	21,175	21,217	21,260	21,302	21,345	21,387	21,430	21,473	21,516	21,559	21,602	21,645	
Penelec	2025	19,066	19,245	19,426	19,609	19,793	19,979	20,167	20,356	20,548	20,741	20,936	21,133	20,083
Penelec	2024	28,181	26,806	23,990	23,432	23,067	22,471	21,190	20,638	20,078	19,535	19,440	18,888	22,310
Penelec	2023	28,912	28,520	28,990	29,429	29,590	30,128	30,136	30,239	30,520	30,475	29,620	28,821	29,615
Penn Power	2026	4,220	4,229	4,238	4,247	4,257	4,266	4,276	4,285	4,294	4,304	4,313	4,323	
Penn Power	2025	3,799	3,834	3,870	3,907	3,943	3,980	4,018	4,056	4,094	4,132	4,171	4,210	4,001
Penn Power	2024	5,623	5,306	5,268	5,145	5,065	4,935	4,653	4,532	4,409	3,997	3,771	3,763	4,706
Penn Power	2023	6,799	6,681	6,781	6,868	6,882	7,001	7,013	7,031	7,018	6,362	6,002	5,990	6,702
West Penn Power	2026	17,682	17,726	17,770	17,815	17,859	17,904	17,949	17,993	18,038	18,084	18,129	18,174	
West Penn Power	2025	15,913	16,062	16,213	16,366	16,519	16,675	16,832	16,990	17,149	17,311	17,473	17,638	16,762
West Penn Power	2024	24,460	23,119	20,497	20,020	19,709	19,199	18,105	17,633	17,155	16,691	16,269	15,765	19,052
West Penn Power	2023	25,042	24,604	25,084	25,575	25,762	26,175	26,189	26,323	26,563	26,592	25,920	25,116	25,745
FE PA	2026	58,419	58,560	58,700	58,841	58,983	59,124	59,266	59,409	59,552	59,695	59,838	59,982	
FE PA	2025	52,580	53,074	53,573	54,076	54,585	55,098	55,616	56,138	56,666	57,199	57,737	58,279	
FE PA	2024	79,252	75,213	67,511	65,939	64,914	63,237	59,631	58,079	56,502	54,682	53,580	52,090	62,553
FE PA	2023	82,000	80,627	82,152	83,607	84,133	85,674	85,829	86,127	86,980	86,218	83,766	81,479	84,049

**Actual participant data 2023 - March 2024*

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Roger Colton, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 5, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 25, 2024

Signature: _____

Roger Colton

Address: Fisher Sheehan & Colton
34 Warwick Road
Belmont, MA 02478

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
	:	
v.	:	Docket No. R- 2024-3047068
	:	
FirstEnergy Pennsylvania Electric Company	:	

Surrebuttal Testimony of Roger Colton

on behalf of

Pennsylvania Office of Consumer Advocate

OCA Statement 5SR

August 8, 2024

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, Massachusetts.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. Yes I am.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY.

A. In my Surrebuttal Testimony, I will respond to the Rebuttal Testimony of Mark Jones regarding low-income issues, tariff changes, and collections issues.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES WITH RESPECT TO YOUR RECOMMENDATION FOR PERSONAL CONTACT PRIOR TO THE DISCONNECTION OF SERVICE.

A. Mr. Jones fails to respond to my recommendation in several ways. First, he asserts that the Company "makes several attempts to contact the customer who have been notified of service terminations, *including* customers identified as low-income customers."[1] His reference to the fact that these "attempts to contact" only "include" low-income customers evidences the fact that the content of the contacts is not targeted toward a population of customers who are likely to be eligible for CAP. Similarly, Mr. Jones states that the 3-day shutoff notice "*contains* information regarding *available assistance programs*." His statement evidences both the fact that the notice is not specifically devoted to expected eligibility in CAP, and the fact that the notice is not focused on CAP (along with an explanation of the advantages of arrearage forgiveness). Mr. Jones does

[1] FirstEnergy St. 8-R, at 5 (emphasis added).

not explain what he considers to be an "assistance program." His reference to delivering "information on these assistance programs" suffers from the same problem.

In its recent Pennsylvania American Water Company decision,[2] the PUC adopted OCA's recommendation that a utility make the personal contact to explain the advantages of CAP along with the arrearage forgiveness provisions of CAP. The Commission quite explicitly held: "PAWC should make personal contact with any confirmed low-income customer facing termination of service for nonpayment, and these customers should be informed of and given the opportunity to enroll in the BDP and the AMP as an alternative to disconnection."[3]

Nothing Mr. Jones states in his Rebuttal Testimony supports the conclusion that FirstEnergy would not benefit from the same practice.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING FIRSTENERGY'S COMPLIANCE WITH THE COMMISSION'S DEFINITION OF A "CONFIRMED LOW-INCOME" RESIDENTIAL ACCOUNT.

A. Mr. Jones testifies that a "confirmed low-income designation" is added to service accounts "when a customer is enrolled in PCAP, has received LIHEAP, or when a customer has provided income information via the financial summary process."[4] Without explaining *why*, he asserts that "I believe that the Company is in compliance with the

[2] Pennsylvania Public Utility Commission v. Pennsylvania American Water Company., Docket R-2023-3043189, Opinion and Order, at 353 (July 11, 2024). Available at: https://www.puc.pa.gov/pcdocs/1838564.pdf

[3] Id., at 353.

[4] FirstEnergy St. 8-R, at 8.

applicable Commission regulations." The Commission regulation defining a "confirmed low-income" residential account, however, states that a utility is to add a "confirmed low-income designation" whenever it has a reasonable basis upon which to believe the customer has income at or below 150% of Federal Poverty Level. Mr. Jones does not even attempt to explain *why* the limited circumstances which he identifies are the *only* reasonable bases upon which FirstEnergy can reach that belief. I am informed by counsel that FirstEnergy bears the burden of proof in this proceeding. In order for FirstEnergy's restrictive practices to be appropriate, it would need to assert, for example, that a customer who documents participation in the federal Supplemental Nutrition Assistance Program (SNAP, formerly known as Food Stamps) cannot reasonably be expected to be low-income. The Company would need to assert that a customer receiving assistance through the Women Infants and Children (WIC) nutrition program, or the Temporary Aid to Needy Families (TANF) program, or the Free School Lunch program, all of which have maximum eligibility criteria less than 150% of FPL, would not provide a basis upon which FirstEnergy could form a reasonable belief that the customer was low-income.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES WITH RESPECT AS TO WHEN A CUSTOMER WILL QUALIFY FOR AN EXEMPTION FROM BEING ASSESSED A CASH SECURITY DEPOSIT.

A. Mr. Jones testifies that "as for cash deposits, FE PA considers customers confirmed low-income when the customer is enrolled in PCAP or has received LIHEAP. Customers who are confirmed low-income are not assessed deposits."[5] Again, the testimony of Mr. Jones evidences that FirstEnergy has placed restrictions on low-income customers that are not

[5] Id., at 8.

merited by the Commission regulation. The Commission does not limit deposit exemptions to participants in CAP or recipients of LIHEAP. Mr. Jones subsequently refers to the fact that customers are only exempted from deposits, and only receive a refund of a previously-posted deposit, if the customer "is enrolled in CAP or has received LIHEAP."[6]

The PUC's regulations provide that "An applicant is confirmed to be eligible for a customer assistance program by the public utility if the *applicant provides* income documents *or other information attesting to his or her eligibility for state benefits based on household income eligibility requirements that are consistent with those of the public utility's customer assistance programs*."[7] (emphasis added). The limitations imposed by FirstEnergy simply are not present in the Commission's regulation.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING CONTACT WITH A CUSTOMER PRIOR TO ENTERING INTO A PAYMENT ARRANGEMENT.

A. The Rebuttal Testimony of Mr. Jones regarding payment arrangements suffers from the same problems as does his testimony regarding pre-disconnection notices. Mr. Jones states that "FE PA customers with arrears are provided with all options available to the customer when the customer contacts the Company."[8] He does not assert that FirstEnergy customers known to be low-income receive particular information. Information that might be particularly relevant to such low-income customers is buried in all the other

[6] Id., at 10.

[7] *52 Pa. Code* § 56.32(e). Available at: https://www.pacodeandbulletin.gov/Display/pacode?file=/secure/pacode/data/052/chapter56/s56.32.html&d=reduce

[8] FirstEnergy St. 8-R, at 8.

information generically provided to all customers. As Mr. Jones notes, the information provided merely "includes" the process for enrolling in CAP. Even then rather than focusing on CAP (along with the arrearage forgiveness which is part of CAP), that CAP information is "included' with information on other programs as well.[9]

As with personal contact prior to a shutoff, the Commission has recently endorsed my recommendation regarding specific notice regarding CAP, including an explanation of arrearage forgiveness, as part of a payment arrangement discussion. The Commission explicitly stated: "we believe PAWC should develop call scripting and checklists for its CSRs to assist in screening customers for eligibility and refer low-income customers to available assistance programs, including BDP and the Hardship Fund, before placing customers on a payment arrangement."[10]

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING CONTACT WITH CONFIRMED LOW-INCOME CUSTOMERS WHEN THEY ACCRUE UNPAID BALANCES OF $300.

A. Mr. Jones disagrees with this recommendation, asserting that the Company "already conducts outreach to customers with arrears." In addition, he says, customers are provided with options when they call the Company's care center, along with "bill inserts, email, and outbound calling campaigns."[11] None of these observations respond to the need for information focused on customers that the Company knows to be low-income, as my testimony recommends. Nor do his responses respond to the need for information

[9] Id., at 8 – 9.

[10] PAWC, at 353.

[11] FirstEnergy St. 8-R, at 10.

that is focused exclusively on CAP (and arrearage forgiveness) as an alternative to the continuing build-up of arrears (and corresponding additional fees imposed on arrears).

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY REGARDING THE INCORPORATION OF LOW-INCOME SEARCH TERMS IN FIRSTENERGY'S USE OF SPEECH ANALYTICS?

A. The Rebuttal Testimony of Mr. Jones responds to my recommendations regarding the use of speech analytics by mischaracterizing what my recommendations are. Remember, as Mr. Jones concedes, "the Company does utilize speech analytics."[12] While he refers in his Rebuttal Testimony to this technology as "still a work in progress,"[13] that characterization differs from what the Company said in response to discovery: "FE PA *is currently developing* dashboards and reporting which will reference speech analytics findings on a forward-going basis."[14] Now is precisely the time to determine how to incorporate my recommendation into its use of speech analytics.

Mr. Jones offers Rebuttal Testimony that in no way reflects my recommendation. He asserts that "the customer has a right not to disclose their income and has a right not to enroll in low-income programs. With this being the case, FE PA would not want to designate an account as low-income unless the customer consents to share that information with the Company."[15] At no point did I suggest that a customer would be forced to disclose their income or to enroll in a low-income program unless they chose to do so. Nor would the use of speech analytics "designate an account as low-income"

[12] Id., at 11.

[13] Id.

[14] OCA-I-77.

[15] FirstEnergy St. 8-R, at 11.

without the customer consenting to share that information with the Company. My recommendation was that:

> Speech pattern analytics can also be used to determine whether calls to the FirstEnergy call center are handled properly for purposes of identifying Confirmed Low-Income customers and customers who would benefit from enrollment in the Company's universal service programs. Terms, phrases and speech patterns associated with low-income status, payment difficulties, unaffordability, or seeking low-income assistance for energy or other life necessities (e.g., food, housing, medical care) could be identified such that FirstEnergy could search for them to identify universal service calls. Proper handling would include approving delays in collection activities pending applications for and approval of program enrollment; identification in the Company's information technology of Confirmed Low-Income customers; and extending available low-income protections.[16]

I further recommended that:

> FirstEnergy be directed to extend the use of its speech analytics software to assist with the monitoring of phone calls involving, or potentially involving, universal service programs and other low-income customers. FirstEnergy should be directed to involve its USAG in the identification and selection of Low-Income and Universal Service Terms to be detected by the system in order to confirm that phone calls are properly being identified and handled.[17]

As can be seen, the objections which Mr. Jones raised in his Rebuttal Testimony are red herrings that have no relevance to what I actually recommended.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING THE PROPOSED ENERGY ASSISTANCE OUTREACH TEAM.

A. Mr. Jones disagrees with my recommendation that the Company's proposed Energy Assistance Outreach Team (EAOT) be funded in fulfilment of the provisions in the

[16] OCA St. 5, at 59 - 60.

[17] Id., at 61.

settlement of the FirstEnergy merger.[18] He asserts that the EAOT is "in addition to and independent of any outreach provisions contemplated within the PA Consolidation Settlement Agreement." His opposition is notable for the information which it ***fails*** to present. He fails to identify what he describes as "outreach provisions contemplated by the PA Consolidation Settlement Agreement." While he asserts that the EAOT does ***not*** fall within the contemplation of the Settlement provision referring to "new outreach activities and efforts by FE PA," he does not identify what ***does*** fall within what the parties to that Settlement "contemplated." In addition, while he asserts that the EAOT is "in addition to and independent of any outreach provisions contemplated within the PA Consolidation Settlement Agreement," he does not provide ***any*** information about what the other "outreach provisions" are. He provides no information which FirstEnergy has shared with its Universal Service Advisory Committee (USAC) about the activities which the EAOT is "in addition to and independent of." He identifies no "new outreach activities and efforts by FE PA," adopted subsequent to the Settlement Agreement, which are "in addition to and independent of" the proposed EAOT. He identifies no "new outreach activities and efforts by FE PA" (the language contained in the Settlement Agreement) which ***are*** in fulfillment of that Settlement Agreement, simply asserting that this particular new outreach activity and effort is ***not***.

Moreover, the Rebuttal Testimony of Mr. Jones is so ambiguous as to be a non-credible response to my recommendation that the EAOT be funded as partial fulfillment of the Settlement Agreement. He asserts that the EAOT "is modeled after similar programs that were conceptualized and began being developed across FirstEnergy's broader footprint

[18] FirstEnergy St. 8-R, at 12 – 13.

before the PA Consolidation Settlement Agreement was even reached."[19] He does *not* identify *what* those "similar programs" are, *where* they were being "conceptualized" and "being developed" in the FirstEnergy "broader footprint," or *when* they were being "conceptualized" and "being developed" prior to the PA Consolidation Settlement Agreement. Nor does he even attempt to explain what he means when he states that the EAOT is "modelled after" those "similar" programs.

I conclude that nothing in the Rebuttal Testimony of Mr. Jones stands in derogation of, or contradiction to, my recommendation regarding the ratemaking treatment of the proposed EAOT.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING HOW FIRSTENERGY'S PROPOSED RATES WILL HAVE A NEGATIVE IMPACT ON AFFORDABILITY AND THE ABILITY OF LOW-INCOME CUSTOMERS TO PAY THEIR BILLS.

A. Mr. Jones does not dispute the fact that FirstEnergy's increased rates, as proposed in this proceeding, will have a negative impact on the affordability of bills to low-income customers and the ability of low-income customers to pay their bills. He asserts, instead, first, that FirstEnergy has proposed the EAOT.[20] One major problem with the proposed EAOT –the observation in my Direct Testimony in this regard is similar to, and supportive of the testimony of CAUSE-PA witness Geller objecting to the EAOT—is that the Company's development of the EAOT has not even followed the planning process

[19] Id., at 13.

[20] FirstEnergy St. 8-R, at 27.

which the Company, itself, has identified as being necessary to a new initiative.[21] Moreover, Mr. Jones does not even attempt to respond to my observation that FirstEnergy's ratemaking proposal for EAOT places the entire risk of the EAOT on ratepayers, while reserving all of the benefits of the EAOT for investors.

In addition, Mr. Jones cites that FirstEnergy "has proposed changes to the USECP that are designed to improve the affordability of bills for low-income customers. PCAP is designed to help establish an affordable bill level for each CAP customer independent of rate increases or usage fluctuation."[22] This testimony simply does not respond to the fact that the FirstEnergy utilities enroll only a fraction of their low-income customers in CAP. According to my Direct Testimony, which Mr. Jones does not dispute, Metropolitan Edison enrolls 28.0% of its estimated low-income customers in CAP; Penelec enrolls 29.9% of its estimated low-income customers; West Penn Power enrolls only 24.0%, and PennPower enrolls only 28.8% of its estimated low-income customers. Mr. Jones references a program, in other words, that misses more than seven-out-of-ten low-income customers.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING THE COSTS OF DISCONNECTION.

A. Mr. Jones responds to my testimony regarding the rate impacts on remaining customers should the Company disconnect low-income customers for nonpayment and thus lose future revenues from lost sales. He argues that if customers are disconnected, while there may be lost sales, "they are also not increasing their unpaid arrearages, the costs of which

[21] OCA St. 5, at 88 – 90.

[22] FirstEnergy St. 8-R, at 27.

would be passed on to other ratepayers through uncollectible expenses."[23] In this regard, Mr. Jones is making a strawman argument. At no place have I recommended that FirstEnergy forego the disconnection of service entirely. I recommend, instead, that customers which the Company knows to be low-income (being a "Confirmed Low-Income" customer) be offered the enrollment into CAP (with the associated arrearage forgiveness benefits) as an alternative to the disconnection of service for nonpayment. Instead of disconnecting service to low income customers with an average arrears ranging from $900 to more than $1,000 in 2024,[24] or putting them on payment arrangements, 99.8% of which have failed,[25] the enrollment of low-income customers in CAP would move those customers into a program which, according to its own program evaluation,[26] generate payment coverage ratios of 90% or more.[27]

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING THE BASE CAP ENROLLMENT PROJECTIONS TO BE USED TO CALCULATE CAP OFFSETS.

A. It is not clear what Mr. Jones is testifying to in his Rebuttal Testimony regarding CAP participation rates. He states that "FE PA does not agree with changing the base CAP participation numbers at this time." He asserts, however, that "the projected year end numbers are the most accurate projections at this time."[28] The base figures which are

[23] Id., at 28.

[24] OCA St. 5, at 39.

[25] OCA St. 5, at 43.

[26] APPRISE, Inc. (January 2017). FirstEnergy Universal Service Programs, Final Evaluation Report, at 89, available at https://www.puc.pa.gov/general/pdf/USP_Evaluation-FirstEnergy.pdf (last accessed May 8, 2023).

[27] OCA St. 5, at 52.

[28] FirstEnergy St. 8-R, at 28.

currently included in the FirstEnergy tariff no longer reflect reality. FirstEnergy made no proposal to change those proposals. However, the changes which I recommend *use the Company's own projections of CAP participation*.[29] Mr. Jones recommendation that the tariff include something other than "the most accurate projections at this time" should be rejected.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES REGARDING THE ADVERSE IMPACT OF HIGHER CUSTOMER CHARGES ON LOW-INCOME CUSTOMERS.

A. In his Rebuttal Testimony, Mr. Jones states that "Witness Lyons addresses issues related to the Company's proposed increase in the fixed customer charge."[30] I note that at no point does Mr. Lyon's address my objections to FirstEnergy's proposed increase to its residential customer charge. Mr. Jones further states that "regardless of any alleged impact to customers' ability to reduce their electric service bills through conservation, FE PA's LIURP will still provide many options that will help reduce their energy usage and, by extension, their bills."[31]

LIURP, while a critically important program to FirstEnergy's low-income population, does not address systematic affordability issues. According to FirstEnergy, in 2023, its LIURP program served:

- Out of its 61,036 confirmed low-income customers, Met-Ed provided LIURP services to 407 heating customers, 358 water heating customers, and 255 baseload customers;

[29] OCA St. 5,a t Exhibit RDC-19.

[30] FirstEnergy St. 8-R, at 31.

[31] Id.

- Out of its 75,842 confirmed low-income customers, Penelec provides LIURP services to 380 heating customers, 1,135 water heating customers, and 588 baseload customers;

- Out of its 16,768 confirmed low-income customers, PennPower provided LIURP services to 193 heating customers, 267 water heating customers, and 335 baseload customers; and

- Out of its 67,170 confirmed low-income customers, West Penn Power provided LIURP services to 297 heating customers, 494 water heating customers, and 229 baseload customers, for West Penn Power.[32]

Out of the tens of thousands of Confirmed Low-Income customers which FirstEnergy serves, providing LIURP services to hundreds of low-income customers does not provide reasonable protection against the unaffordability of FirstEnergy rates.

Q. PLEASE RESPOND TO THE REBUTTAL TESTIMONY OF MR. JONES WITH RESPECT TO HIS PROPOSED ADJUSTMENTS BASED ON THE POSSIBILITY THAT THE LEGISLATURE WILL MODIFY CHAPTER 14.

A. Mr. Jones' Rebuttal Testimony speaks for itself as to why the recommended expense adjustments he proposes should not be adopted. He concedes that "both topics contain speculative language around what could happen in the future."[33] He concedes further that the Company has not made any adjustments to its uncollectibles based on changes to its low-income programs because it does not have "readily available historical data and experience with understanding" how such actions would *improve* the Company's collections outcomes.

[32] OCA-I-01, Attachment L and Attachment Z.

[33] FirstEnergy St. 8-R, at 41.

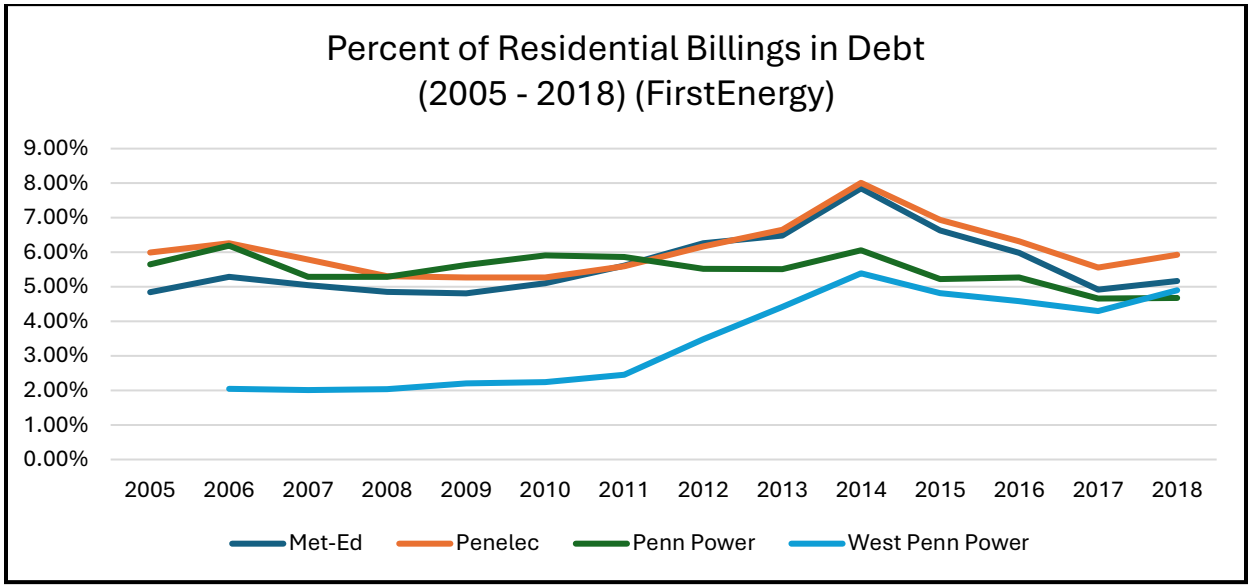
Mr. Jones, however, asserts further that "the Company *does* have historical data and experience with understanding how changes to collection practices, such as those proposed changes to Chapter 14 of the Public Utility Code, may affect uncollectible expense."[34] He does not identify what that "historical. . .experience" is and does not provide that "historical data." And the most that he can assert is that such changes "*may* affect uncollectible expense." (emphasis added).

Q. HAVE YOU EXAMINED ANY OF THAT "HISTORICAL DATA AND EXPERIENCE" WITH RESPECT TO CHANGES TO CHAPTER 14 OF THE PUBLIC UTILITY CODE?

A. Yes. By statute, the Commission files a report every 5 years with the Governor and the General Assembly regarding the implementation of Chapter 14. This report presents comprehensive data on utility collections subsequent to the adoption of Chapter 14. The data includes each FirstEnergy utility. At the request of FirstEnergy, the Commission reports data separately for Met-Ed, Penelec, Penn Power, and West Penn Power. Data for West Penn Power was not reported prior to 2006. Given Mr. Jones' Rebuttal Testimony regarding how the changes in uncollectibles, based on changes in Chapter 14, can be accurately projected based on the "historical data and experience," I have reviewed that "historical data and experience" for the FirstEnergy utilities as reported by the Commission to the Governor and General Assembly. The two Charts below, for example, presents the Commission's reported data on: (1) the percentage of residential accounts in arrears for the years 2005 (the first year after Chapter 14 was adopted) through 2018 (the

[34] Id., at 40 (emphasis added).

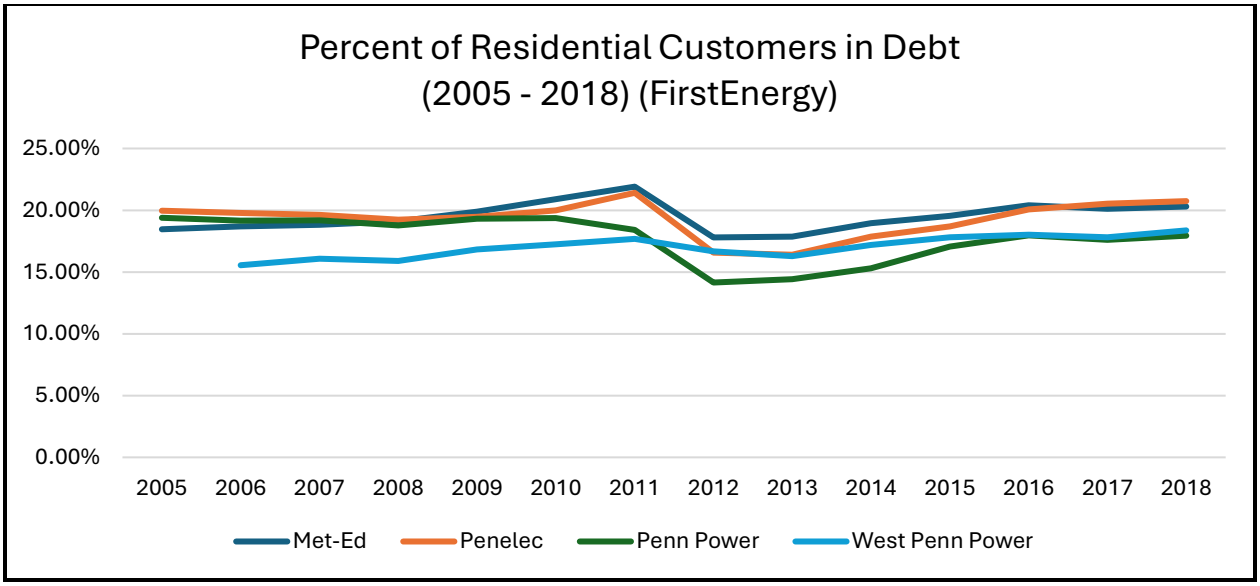
most recent data reported),[35] and (2) the percentage of residential billings in arrears for the same time period.[36] While the most recent data is 2018, given that Chapter 14 was first adopted in December 2004, the impacts, if any, on FirstEnergy collections would have become sufficiently evident to appear by the 2018 data. If collection impacts take longer than 14 years to manifest themselves, they can hardly be attributed to the enactment of the statute. It seems evident that the adoption of Chapter 14 in December 2004 had little, if any, effect on the arrears carried by FirstEnergy residential customers.



Moreover, the Chart below presents the same information, but for residential customers in arrears rather than residential billings in arrears. That Chart shows that, as with the percentage of billings in debt, there was no substantive change in the percentage of residential customers in debt subsequent to Chapter 14.

[35] The most recent Report is from 2020. The most recent data, however, used in that 2020 Report, is from 2018.

[36] Data is reported every five years. The final report (the "Seventh Report") is due December 2024.



The conclusion I reach is that FirstEnergy cannot be said to have established that legislative changes to Chapter 14, if any, would have a known and measurable impact on FirstEnergy's uncollectibles. The existence of those changes, if any, let alone the magnitude of those changes, is not established by the unidentified, unsupported, undocumented, observation in the Rebuttal Testimony of Mr. Jones that his projected impacts are based on "historical data and experience."

Q. DO YOU HAVE ANY FINAL OBSERVATION ABOUT THE "HISTORICAL DATA AND EXPERIENCE" OF PENNSYLVANIA UTILITIES SUBSEQUENT TO THE ADOPTION OF CHAPTER 14?

A. Yes. The Commission was directed to report to the Governor and General Assembly about the implementation of Chapter 14. Given the intent of that reporting, to track the impacts of the statute, it would seem reasonable to now consider what the Commission reported as it fulfilled its statutory obligations.

- The Third Biennial Report to the Governor and General Assembly reported: "The overall collections performance for the electric industry has shown some deterioration since the passage of Chapter 14, offsetting the improvements

shown in the pre-Chapter 14 period from 2002-04. Specifically, the 24.7% increase in residential revenues since 2004 has been offset by an increasing percentage of customers who owe an increasing amount of money."[37]

- The Fourth Biennial Report of the Commission reported: "The overall collections performance for the electric industry is beginning to show some improvement since the passage of Chapter 14, despite the weak economy. . .The gross residential write-offs ratio, which is the percentage of billings written off as uncollectible, declined from 2.1 percent in 2004 to 1.8 percent in 2011."[38]

The fact that by the end of *Year 7* after Chapter 14 was adopted the "overall collection performance" was "*beginning* to show *some* improvement" is not strong support for Mr. Jones assertion that the "historic data" supports his adjustments.

- The Fifth Biennial Report of the Commission reported: "The gross residential write-offs ratio for the electric industry, which is the percent of billings written-off as uncollectible, declined from 2.1 percent in 2004 to a low of 1.7 in 2010, but has since risen to 2.0 percent in 2013. . .The percentage of weighted arrears for the electric industry declined to a low point in 2010, but has since risen to exceed pre-Chapter 14 levels."[39]

As can be seen, the decline in arrears which it took the electric industry seven years to achieve (2004 – 2010) was subsequently reversed in half that many years. There was not a consistent improvement. Indeed, when viewed from the perspective of "weighted arrears," the electric industry was worse off after Chapter 14 than it was before Chapter 14.

- Finally, the Sixth Biennial Report of the Commission –the most recent report produced-- reported that: "Overall, the gross write-offs ratio for the electric

[37] Pennsylvania PUC, Third Biennial Report on the Implementation of Chapter 14, at 37.

[38] Pennsylvania PUC, Fourth Biennial Report on the Implementation of Chapter 14, at iii.

[39] Pennsylvania PUC, Fifth Biennial Report on the Implementation of Chapter 14, at ii.

> industry is at nearly the same as level as it was pre-Chapter 14 and indicates that the collections performance has not improved."[40]

As Mr. Jones notes, there is an historical record of the performance of Pennsylvania's electric utilities given the operation of Chapter 14. As the Commission unambiguously concluded in its most recent report to the Governor and General Assembly with respect to the state's electric utilities, "the collections performance has not improved." Indeed, the Commission reported that "the gross write-offs ratio for the electric industry is at nearly the same level as it was pre-Chapter 14." If the adoption of Chapter 14 did not result in an improvement in "the collections performance," the changes to Chapter 14 which Mr. Jones cites can hardly be expected to result in a deterioration of the collections performance. The conclusion I reach based on this review of the "historical data and experience" referenced by Mr. Jones is that this "historical data and experience" does not support the adjustments which he proposes.

Q. DOES THIS COMPLETE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

[40] Pennsylvania PUC, Sixth Biennial Report on the Implementation of Chapter 14, at 104.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Roger Colton, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 5SR, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2024

Signature: _____
Roger Colton

Address: Fisher Sheehan & Colton
34 Warwick Road
Belmont, MA 02478

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v. Docket No. R-2024-3047068

FirstEnergy Pennsylvania Electric Co.

DIRECT TESTIMONY OF

Barbara R. Alexander

ON BEHALF OF THE

OFFICE OF CONSUMER ADVOCATE

June 25, 2024

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I. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is Barbara R. Alexander. I am the sole member manager of Barbara Alexander Consulting LLC. My office is located at 44 Beech St., Hallowell, ME 04347

Q. FOR WHOM ARE YOU PROVIDING TESTIMONY IN THIS PROCEEDING?

A. I am testifying on behalf of the OCA.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND QUALIFICATIONS.

A. I opened my consulting practice in March 1996, after nearly ten years as the Director of the Consumer Assistance Division of the Maine Public Utilities Commission. While there, I testified as an expert witness on consumer protection, customer service and low-income issues in rate cases and other investigations before the Commission. My consulting practice is directed to consumer protection, customer service and low-income programs and policies relating to the regulation of the telephone, electric and gas industries. In particular, I have focused on the changes in policies and procedures required by state regulation in the transition to retail competition. Among my areas of expertise are policies and programs related to Default Service and related issues concerning the transition to retail competition for both the electric and natural gas industries. I have appeared in over 30 U.S. and Canadian provinces on these issues and made numerous presentations on this issue before state regulatory commissions and at national conferences.

I am a graduate of the University of Michigan (B.A. 1968) and the University of

Maine School of Law (J.D. 1976).

I have been involved in the implementation of retail electric and natural gas competition in Pennsylvania on behalf of the OCA since 1997. I testified on consumer education, consumer protection, supplier licensing, customer enrollment, default service, and Code of Conduct issues for the OCA in the Pennsylvania Public Utility Commission's (Commission) electric restructuring proceedings in 1997 and 1998 and in the natural gas restructuring cases beginning in 1999. I have provided testimony submitted on behalf of the OCA on service quality and low-income program issues associated with electric and natural gas distribution company mergers and in base rate proceedings for electric, natural gas, and water and sewer public utilities. With respect to issues relating to retail market competition policies, I testified on behalf of the OCA on policies that should govern the planning and acquisition of Default Service for residential customers and on proposals to adopt Purchase of Receivables (POR) programs, Customer Referral Programs, and other "retail market enhancement" programs for electric and natural gas utilities, including FirstEnergy distribution companies, Duquesne Light Co., PPL Energy (both gas and electric service), PPL Electric, UGI Utilities, Columbia Gas of Pennsylvania, T.W. Phillips Gas and Oil Co. and Peoples Natural Gas. I have opined on the design and impacts of various "smart meter" enabled rate programs, including incentive rate options and time of use rate options in Maryland, Massachusetts, and Maine. My updated CV with the specific identification of these proceedings is attached as Exhibit BA-1.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. I am filing Direct Testimony in response to the filing by FirstEnergy Pennsylvania Electric Co. (FirstEnergy or Company) to increase its base rates for electric distribution service

filed on April 2, 2024. My testimony addresses the customer service and consumer protection implications for the increase in rates for residential customers if FirstEnergy's request is approved. I also address policy issues associated with FirstEnergy's proposals to incent the purchase of electric vehicles (EVs).

Q. PLEASE DESCRIBE FIRSTENERGY'S RATE INCREASE PROPOSAL.

A. FirstEnergy is engaged in the business of furnishing electric service to approximately 2.1 million residential, commercial, and industrial customers across 55 counties, the largest electric distribution company in the Commonwealth. On a rate district basis, the Company proposes to increase annual revenues as follows:

Rate District	Total Increase in Annual Distribution Revenues	% Increase
Met-Ed	$146.3 million	28.4% increase
Penelec	$133 million	26% increase
Penn Power	$54.8 million	42.3% increase
West Penn	$169.8 million	39.5% increase

Under the Company's proposal a residential customer using 1,000 kWh per month would see bill increases as follows:

Rate District	Current Monthly Bill 1,000 kWh usage	Proposed Monthly Bill 1,000 kWh usage	% Increase
Met-Ed	$188	$205	9.2% increase
Penelec	$201	$221	9.8% increase
Penn Power	$181	$202	11.8% increase
West Penn	$156	$173	10.6% increase

In addition, FirstEnergy is proposing to increase the monthly charge for residential customers as follows:

Rate District	Current Customer Charge	Proposed Customer Charge	% Increase
Met-Ed	$11.25	$14.50	28.9% increase
Penelec	$11.25	$14.50	28.9% increase

Penn Power	$11.00	$14.50	31.8% increase
West Penn	$7.44	$11.50	54.6% increase

Q. WHAT IS THE CONNECTION BETWEEN YOUR DISCUSSION OF SERVICE QUALITY AND CUSTOMER SERVICE PERFORMANCE AND THE RATE INCREASE PROPOSED BY FIRSTENERGY?

A. While the attorneys at the OCA will brief all of the legal requirements, a public utility in Pennsylvania is statutorily obligated to provide adequate and reasonable service to its customers. A public utility must justify its rates based on, among other things, its ability to perform its essential quality of service and customer service functions at an adequate and reasonable performance level. Accordingly, where a public utility is seeking a rate increase – especially a significant one, it is appropriate to review the performance of that utility and to compare such performance to other Pennsylvania utilities. Therefore, my evaluation of FirstEnergy's customer service and consumer protection policies is directly related to the Commission's consideration of the Company's general rate increase.

My analysis and findings should inform the Commission on the reasonableness of FirstEnergy's significant rate increase request. Where I identify deficiencies in FirstEnergy's customer service performance, I recommend that the Commission order improvements in specific areas as a condition of any rate increase and consider adopting any rate increase and rate of return that reflects the inadequate customer service I have documented. Counsel informs me that this approach is mandated by the statutory guidelines of Section 523 governing public utility rate cases in which the Commission must evaluate the "efficiency, effectiveness, and adequacy of service."[1]

[1] 66 Pa. C.S. 523.

Q. DO YOU HAVE EXHIBITS TO YOUR TESTIMONY?

A. Yes. I attach the following exhibits to my testimony:

- Exhibit BA-1: CV of Barbara R. Alexander
- Exhibit BA-2: Excerpts from Settlement, Docket No. P-2019-3013979 (Remote Disconnect Proceeding)
- Exhibit BA-3: FirstEnergy Response to OCA-XVI-1 and attachment A.
- Exhibit BA-4: FirstEnergy Response to OCA-V-43, Attachment A.
- Exhibit BA-5: FirstEnergy Response to OCA-V-18, Attachment A.
- Exhibit BA-6: FirstEnergy Response to OCA-V-63.
- Exhibit BA-7: FirstEnergy Response to OCA-XVI-11, Attachment C.
- Exhibit BA-8: FirstEnergy Response to OCA-XVI-11, Attachment B.
- Exhibit BA-9: FirstEnergy Response to OCA-V-67 and Attachment A.
- Exhibit BA-10: E-mailed solicitation of FirstEnergy's non-basic services to Met-Ed customer.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. The following is a high-level summary of my recommendations as reflected in my testimony in more detail:

Electric Vehicle Pilot: First, the programs that are designed to use ratepayer funds to stimulate customer adoption or investments in electrification of vehicles should not be approved. It is not an appropriate role of the EDC to use ratepayer funds for this purpose, particularly in light of the extensive federal funds available for these same purposes. Second, educational programs may be appropriate to assist customers in making purchasing and investment decisions based on the implications for the

FirstEnergy electric bill if not promotional in nature. These materials should be educational in nature. It is also appropriate for FirstEnergy to refer customers to state or federal level resources about specific programs for appliances and impacts of these consumer decisions on energy costs and FirstEnergy electric bills. Third, FirstEnergy has not identified or provided sufficient details for an acceptable evaluation plan for this "pilot." Any such programs must be accompanied by a well- designed evaluation plan that collects sufficient data to determine the value and impact of any pilot program on distribution services. The purpose of any well-structured pilot is not merely to incent certain customers to engage in a discretionary purchase, but to determine the value to non-participating ratepayers and the distribution system as a whole.

- Prior Settlement Commitments: At a minimum I recommend that FirstEnergy file a complete presentation of each of its commitments in the PA Consolidation Proceeding and the Remote Disconnection Proceedings in its Rebuttal testimony and provide up to date information on compliance and initiatives designed to ensure compliance that will be implemented as a condition of any rate increase ordered in this proceeding.
- Status of Remote Disconnection Settlement Conditions: I recommend that as a condition of this base rate case that FirstEnergy agree to continue the ongoing discussions and make changes that may result from these discussions promptly and without additional impact on the rates under consideration in this proceeding.
- Customer Service and Call Center Performance: I recommend that FirstEnergy be required to maintain its call answering performance results as reflected in its most recent 2024 information as a condition of any rate increase. However, even if "compliance" with the call center based on Commission reporting definitions is

adequate, the lack of documentation of realistic training and supervision for its virtual call center and "contractor" call center staffing should be improved. I recommend that FirstEnergy document routine audits of its call centers generally and temporary contractors specifically to document sufficient and realistic training prior to handling Pennsylvania customer calls.

- Complaint Handling and Analysis: FirstEnergy has not complied with a prior settlement condition in the PA Consolidation Proceeding that explicitly requires regular root cause analysis of customer complaints and BCS findings. This failure should be taken into account in the recommendations for rate of return and earnings in this proceeding. I recommend that FirstEnergy develop internal protocols for a regular and proper root cause analysis of its complaint trends, both for internal disputes and BCS informal complaints that document infractions and verified violations. This plan should require a root cause analysis of the type I have identified above and report on findings, including identification of trends, evaluation, steps to reform or avoid repeated trends, and internal steps taken to take proper internal enforcement action where needed within 3 months after the decision in this case and with quarterly updates to stakeholders on the results.
- Chapter 14 Rate Adjustment: FirstEnergy proposal to include an adjustment to its uncollectible expense to reflect unknown and unadopted changes to Chapter 14 of the Public Utilities Code should be rejected.
- Presentation of Supplier Charges on Customer Bills: I recommend that FirstEnergy require EGSs participating in the POR to calculate and present the cents per kWh rate based on their total bill amount in addition to any breakdown of their charges presented

on the bill. In addition, FirstEnergy should calculate the customer's bill under the applicable PTC and provide that bill total as part of the PTC disclosure. This recommendation implements the necessary disclosures to allow the customer to make decisions to compare the PTC to EGS charges which is the fundamental purpose of the long standing Commission and EDC customer educational messages about shopping for alternative generation supply. It is not reasonable to emphasize the importance of comparing the PTC to EGS charges if this comparison is not properly presented to customers in a manner that is easily understandable and factually correct. This change empowers the customer to understand and make decisions about customer choice.In addition, I recommend that FirstEnergy evaluate the impact of EGS charges on its distribution costs to collect EGS charges. Such investigation and analysis should rely on its newly instituted compilation and summary of EGS customer complaints and inform the Company about the costs associated with the POR program and may lead to a consideration to increase the discount charged to EGSs who bill rates and charges in excess of the PTC.

- Elimination of Payment Fees: FirstEnergy's proposal to eliminate payment fees and include reasonable costs to process customer payments in rates should be adopted.
- Non-Basic Charges: My primary recommendation is that the Commission investigate this program to ensure that there is no subsidy by regulated distribution customers for these programs and to require significant reforms in how these programs are presented to Pennsylvania customers on customer bills, in marketing materials, on the Company's web portal, and in termination notices. This investigation should also review how FirstEnergy handles customer complaints about non-basic products appearing on their

bill or the service they receive. FirstEnergy's customer bill does not include the necessary disclosures. FirstEnergy's web portal that promotes these programs does not disclose that these programs are "non-basic" and not required to be purchased from FirstEnergy or describe how these charges relate to credit and collection actions for FirstEnergy's regulated services. Furthermore, the use of FirstEnergy's regulated service customer lists and billing data to market these unregulated products and services raises additional customer privacy concerns. The intermingling of regulated and unregulated and non-basic services in FirstEnergy's marketing, billing, and customer education activities is a matter of significant concern in light of the obligation of Pennsylvania's EDCs to restructure their operations to eliminate competitively available services and products from their regulated portfolio of services.

II. FIRSTENERGY'S ELECTRIFICATION PROPOSALS AND PROGRAMS RAISE SIGNIFICANT POLICY ISSUES AND SHOULD NOT BE ADOPTED AT THIS TIME

Q. PLEASE SUMMARIZE FIRSTENERGY'S ELECTRIC VEHICLE PROPOSALS.

A. FirstEnergy proposes an Electric Vehicle Pilot composed of two major parts: (1) customer education and awareness; and (2) an incentive/rebate program.[2]

The education and awareness component seeks to provide online resources to FirstEnergy's customers about electric vehicles and programs that might provide tax credits or rebates to incentive purchasing EVs. Other aspects of this program include providing financial support to a variety of local and commercial entities to help write grants for vehicle electrification programs and services. A third component is to provide assistance

[2] FirstEnergy Statement No. 8, pages 13-17.

to commercial and municipal fleets to create feasibility analyses, cost benefit analyses, and procurement planning for vehicle electrification. Fourth is a dealership toolkit resource to fund kiosks at dealers to educate customers about buying and owning an EV. The costs of this program are estimated as $3,480,000.[3]

The incentive rebate program will provide ratepayer funds to individual residential customers and businesses to install Level 2 chargers. An additional component will provide ratepayer funded rebates to government agencies and nonprofits to install DC fast chargers. The total program allowance will be $2,000,000 annually for the residential rebate component and $2,000,000 annually for the combined non-residential and DC fast charging rebate components.

Q. ON WHAT GROUNDS DOES FIRSTENERGY JUSTIFY THE USE OF RATEPAYER FUNDS FOR THESE EV PROGRAMS?

A. FirstEnergy Witness Mark Jones states,

> Many of the program elements in the EV Pilot are specifically designed to benefit the public by helping to expand public charging infrastructure or assist public serving entities such as local governments and regional transit authorities. This provides benefit to all customers directly through improved public infrastructure and newer, cleaner public transportation as well as indirectly through reduced tailpipe emissions. Additionally, program elements such as the online education platform and dealership toolkits can even directly benefit customers who opt not to purchase EVs by helping them better understand the technology and providing resources to help them understand whether EVs are the right choice for them.[4]

Q. WHAT POLICY ISSUES ARE RAISED BY THESE PROPOSALS?

A. These programs raise novel concerns about the proper role of the Electric Distribution Company (EDC) in Pennsylvania's restructured utility market. As an EDC, FirstEnergy

[3] FirstEnergy Response to OCA-V-29.
[4] FirstEnergy Statement No. 8, page 17, lines,

does not own or operate generation resources. FirstEnergy purchases generation supply for its default service customers pursuant to a portfolio approved by the Commission and acquired with competitive bids from wholesale market suppliers. As a distribution company, FirstEnergy's primary responsibility is to safely, efficiently, and affordably operate its distribution service infrastructure to provide reliable service, restore power when there are outages, maintain its poles, wires and substations, and deliver a reasonable level of customer service via its metering, billing, and customer call centers and field operations. There is no basis for FirstEnergy to assume, as it has in this proceeding, that its regulated rates and services must include incentives and programs designed to enhance a specific use of electricity or promote with ratepayer funds the electrification of transportation. I am not aware of any Commission directive or policy that would support the use of ratepayer funds for these purposes. To the contrary, the only rulemaking proceeding that is currently pending before the Commission related to EVs is a proposed policy statement that addresses rate designs for EV charging, but FirstEnergy is not proposing an EV rate design in this proceeding.

Q. ARE FIRSTENERGY'S ELECTRIFICATION PROPOSALS APPROPRIATE TO CONSIDER IN THIS BASE RATE CASE?

A. Not at this time. Certainly, when seeking to spend ratepayer funds, FirstEnergy must address usage trends and implications for its regulated distribution services in a rate case. FirstEnergy's proposals to promote and subsidize the purchase of EVs are, at best, ancillary to FirstEnergy's responsibilities as a distribution utility. Furthermore, given that these subsidies and proposed education programs are designed to increase electric usage, they are potentially in conflict with Pennsylvania's Act 129 that is designed to help consumers

lower their electric consumption. FirstEnergy's filing does not address these issues. The Commission is required by Act 129 to establish an energy efficiency and conservation program (EE&C Program). The EE&C Program requires each electric distribution company (EDC) with at least 100,000 customers to adopt a plan to reduce energy demand and consumption within its service territory.[5] On January 15, 2009, the Commission adopted an Implementation Order at Docket No. M-2008-2069887 establishing the standards each plan must meet and providing guidance on the procedures to be followed for submittal, review and approval of all aspects of EDC EE&C plans.[6] The most recent guidance for these programs was adopted in 2020.[7] The purpose of these plans that apply to FirstEnergy is to reduce the use of electricity via cost effective conservation programs and reduce peak load by means of demand response programs. I note that FirstEnergy's Act 129 programs as currently approved must document avoided costs and projected energy savings are evaluated in the Company's Evaluation Plans.[8]

Q. ARE FIRSTENERGY'S ELECTRIFICATION PROPOSALS DESIGNED TO INCREASE USAGE OF ELECTRICITY?

A. Yes. FirstEnergy's organizational chart and identified functions for its Customer Experience management identifies a high priority for "electrification" and 'electricity growth."[9] FirstEnergy's basis for supporting its proposed electrification programs do not reflect the required analysis and evaluation protocols set forth for demand response or

[5] 66 Pa. C.S. § 2806.1.
[6] *See Energy Efficiency and Conservation Program* Implementation Order, at Docket No. M-2008-2069887, (Phase I Implementation Order), entered January 16, 2009.
[7] Phase IV Final Implementation Order – The Act 129 Phase IV EE&C Program Implementation Order. From the Public Meeting of June 18, 2020. Docket No. M-2020-3015228.
[8] FirstEnergy Response to OCA-V-7 references its Phase IV Energy Efficiency and Conservation Plan approved in Docket M-2020-3020820 (March 25, 2021).
[9] FirstEnergy Response to OCA-V-2, Attachment. A.

conservation programs in Commission guidance for Act 129. As a distribution company, FirstEnergy is obligated to ensure that its rates for distribution service reflect the costs and benefits of its programs for distribution services. In contrast to focusing on its primary and statutory obligations to provide reliable distribution service at reasonable rates, FirstEnergy's proposals for its Electric Vehicle Pilot rely on societal benefits. I do not disagree with these potential benefits in the abstract or as a part of a larger federal or state policy initiative, but I question whether FirstEnergy's distribution rates should be used as a vehicle to achieve these objectives when paid for by their ratepayers.

Q. ARE THERE ADDITIONAL CONCERNS THAT CONFIRM YOUR OVERALL RECOMMENDATION?

A. Yes. My concerns are also rooted in the long-standing conclusion that electricity rates and prices are regressive in nature, that is, they have a larger impact on lower income households compared to upper income households. Increasing ratepayer funding mandates that are not clearly needed or that are not documented as essential and least cost in nature will exacerbate this trend. It is widely acknowledged that lower income households use less and pay a higher percentage of their household income for essential energy compared to higher income households. OCA witness Roger Colton outlines the pressures on households who are low income, as well as those who live at our below the self-sufficiency threshold and struggle each month to pay their bills. Low and moderate income household should not be forced to shoulder the burden of increased utility costs to fund voluntary load growth programs such as those proposed by FirstEnergy. This key attribute of utility prices for essential electricity service contrasts with the more progressive general income taxes at the federal level that are designed to shield lower income households for excessive tax

burdens, and, in many states, including Pennsylvania, excuse lower income households from any income tax obligation.

Q. WHAT IS THE ROLE OF THE EDC IN MANAGING THE ELECTRIFICATION TRENDS AND PLANNING FOR DISTRIBUTION GRID IMPLICATIONS?

A. That is the issue that is emerging and will no doubt be the subject of future legislative and regulatory policy. At a minimum and as the currently recognized priority, the EDCs have an ongoing obligation to plan and invest in their distribution grids to respond to maintenance needs, reliability, and usage trends. Traditional infrastructure and maintenance costs will appear in regular base rate cases to identify and seek approval for investments that are determined to be prudent and cost effective. In addition, the Commission has implemented a policy docket to provide guidance to the EDCs on EV charging rate design that has not yet been finalized.[10] The Draft Policy Order issued by the Commission encourages the development of distribution and default service EV charging rates with certain policies that should govern these rate options. While Comments and Reply Comments have been issued by a wide range of stakeholders, no final order has been issued.[11] While the current Act 129 program guidance does not reflect any mandates for appliance specific or customer behavior programs, relying almost entirely on efficiency programs that reflect electricity demand reduction attributes,[12] there is a growing federal push for electrification funded by tax credits and federal funds that Pennsylvania is pursuing that will require additional Pennsylvania-specific policies. This base rate proceeding is not a reasonable means of addressing these statewide issues.

[10] Pennsylvania PUC, Utility Rate Design for Electric Vehicle Charging, Proposed Policy Statement Order, Docket No. M-2023-3040755 (October 19, 2023).
[11] *Id.*
[12] Phase IV Final Implementation Order, Page 68.

Q. WHAT IS THE ROLE OF THE EDC IN MANAGING THE ELECTRIFICATION TRENDS AND PLANNING FOR DEFAULT SERVICE PROCUREMENT?

A. First, this is not a default service proceeding. That said, I am not aware of any final Commission guidance on this matter since this issue is also under consideration in the Commission's EV Charging Proposed Policy docket. The current Time of Use rate options that are statutorily required to be offered for default service were not particularly designed to respond to electrification trends but reflect a whole house rate that uses the functionality of the smart metering system. Those rate options are poorly subscribed and without any analysis to document potential impact on peak load prices or default service prices generally. FirstEnergy offers a whole house TOU rate option as part of its Default Service portfolio, but it is poorly subscribed and has not been evaluated to determine its value to either distribution or default service customers.[13] The Company has not made any connection between its proposed EV Pilot and rate options or programs to address usage patterns for EV charging.

Q. WHAT FEDERAL PROGRAMS ARE AVAILABLE TO INCENT RESIDENTIAL AND COMMERCIAL CUSTOMERS TO MAKE INVESTMENTS IN TRANSPORTATION AND BUILDING ELECTRIFICATION?

A. There is a significant suite of federally funded programs currently available to incent consumers to invest in transportation and building electrification through the Inflation Reduction Act and other legislation that are directly applicable to Pennsylvania and FirstEnergy consumers: tax credits and rebates for heat pumps, induction stoves, lawn equipment, and make ready electric panels and rebates and tax credits for purchasing EVs

[13] FirstEnergy Response to OCA-V-37: "no formal evaluation of the TOU rate has been performed to date."

and for EV charging equipment. The Pennsylvania Department of Environmental Protection has summarized these programs.[14] At no point has FirstEnergy provided any evidence that targeting additional ratepayer funded rebates and benefits are either necessary or that its proposals would have a measurable impact beyond the currently available programs funded by federal taxpayers.

Q. GIVEN THE NASCENT LEVEL OF POLICY DEVELOPMENT ON THE ROLE OF THE EDC IN ELECTRIFICATION TRENDS, WHAT DO YOU RECOMMEND AS THE CRITERIA THAT SHOULD GOVERN FIRSTENERGY'S PROPOSALS IN THIS BASE RATE PROCEEDING?

A. I recommend that the Commission rely on the following overall considerations in this base rate proceeding:

- First, the programs that are designed to use ratepayer funds to stimulate customer adoption or investments in electrification of vehicles should not be approved. It is not an appropriate role of the EDC to use ratepayer funds for this purpose, particularly in light of the extensive federal funds available for these same purposes. At no point does FirstEnergy document that its proposed rebates and other ratepayer funded subsidies to individuals or businesses would be necessary or even incrementally effective in promoting EV purchases or other appliances beyond the already available tax and point of sale rebates.
- Second, educational programs may be appropriate to assist customers in making purchasing and investment decisions based on the implications for the FirstEnergy electric bill if not promotional in nature. These materials should be educational in nature. Meaning that they should inform and educate the customer on the impact of a program so that a

[14] https://www.dep.pa.gov/Citizens/Energy/Pages/Inflation-Reduction-Act.aspx

customer can make an appropriate decision on whether a program will be beneficial to them. It is also appropriate for FirstEnergy to refer customers to state or federal level resources about specific programs for appliances and impacts of these consumer decisions on energy costs and FirstEnergy electric bills. However, FirstEnergy has not developed any of its proposed outreach and educational materials in this proceeding[15] so that approving expenditures for this purpose is not appropriate at this time.

- Third, FirstEnergy has not identified or provided sufficient details for an acceptable evaluation plan for this "pilot."[16] Any such programs must be accompanied by a well-designed evaluation plan that collects sufficient data to determine the value and impact of any pilot program on distribution services. The purpose of any well-structured pilot is not merely to incent certain customers to engage in a discretionary purchase, but to determine the value to non-participating ratepayers and the distribution system as a whole.

III. FIRSTENERGY'S FILING TO INCREASE CUSTOMER RATES DOES NOT INCLUDE A PROPER ANALYSIS OF ITS CUSTOMER SERVICE PERFORMANCE OR PRIOR COMMITMENTS

Q. PLEASE DESCRIBE FIRSTENERGY'S PRESENTATION OF THE COMPANY'S SERVICE QUALITY AND CUSTOMER SERVICE PERFORMANCE IN THIS BASE RATE CASE FILING.

A. The only witness who addresses these crucial aspects of any proposal to increase rates is Mr. Mark Jones.[17] His testimony discussed "customer experience initiatives," the proposal

[15] FirstEnergy Response to OCA-V-36.
[16] FirstEnergy Response to OCA-V-22 merely recites the intent to gather program activities as its evaluation plan. There is no actual evaluation plan that has been developed or submitted to support the approval of this pilot.
[17] FirstEnergy St. No. 8.

to eliminate credit card fees, low income assistance initiative, uncollectible expense, an electric vehicle pilot, and prior settlement commitments.

- The "customer experience initiative" is an internal reorganization to focus on customer needs and develop more interactive means to serve customers. However, these initiatives consist of emphasizing digital and internet- based automated service features to avoid interacting with the customer call center.
- I support the proposal to eliminate fees to make payments on the Company's web portal or through credit card processing systems.
- OCA Witness Roger Colton will discuss the Company's low income assistance programs.
- A proposal to increase the ratepayer funding of uncollectible expense based on the Company's concerns about potential and as yet not approved statutory changes under consideration by the Pennsylvania Legislature.
- The Electric Vehicle Pilot, a program that I have discussed in Part I and that will be eliminated from proposed rates by OCA Witness Dante Mugrace.The prior Settlement Commitments identified by Mr. Jones as applicable to this base rate case were those adopted in the 2016 base rate case, Docket No. R-2016-2537349 relating to, among other requirements, an obligation to answer 80% of customer calls within 30 seconds. Mr. Jones also included a reference to the "PA Consolidation Proceeding"[18] and stated, "The Company also committed to maintain specific levels of customer service

[18] *Joint Application of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, West Penn Power Company, Keystone Appalachian Transmission Company, Mid-Atlantic Interstate Transmission, LLC, and FirstEnergy Pennsylvania Electric Company,* Docket Nos. A-2023-3038771, et al. (Order entered December 7, 2023).

performance as part of the PA Consolidation settlement agreement.[19] Mr. Jones did not identify or discuss these specific customer service requirements.

Q. WHAT COMMITMENTS IN THE PA CONSOLIDATION PROCEEDING DID MR. JONES NOT IDENTIFY OR DISCUSS?

A. Yes. The settlement to the PA Consolidation Proceeding required FirstEnergy to comply with the following requirements[20]:

- Maintain the location of a Pennsylvania call center for a period of five years;
- FirstEnergy must take steps to ensure a Pennsylvania-focused presence and awareness in its contact center operations, include a Pennsylvania-focused refresher training module to be provided to all representatives handling Pennsylvania customer calls and notice and discussion with parties if the Reading, PA contact center is eliminated;
- Maintain services at call centers for residential customers as of July 2023 for five years;
- Maintain minimum hours of call centers Monday through Friday, 8 am to 6 pm;
- Maintain the use of IVR (interactive voice response) systems during business and non-business hours as in place as of July 2023;
- Monthly review of customer disputes, complaints, and the Commission's BCS compliance filings to identify and respond to root cause(s) based on patterns and practices reflected in these indicia of customer dissatisfaction to ensure high level performance for customers. The review must identify trends and areas for performance improvement and the review must be reported out to managements, as well as shared with the quarterly meetings with the Universal Service
- Commit to maintain its customer service performance for call center, reliability of

[19] FirstEnergy St. No. 8, page 19, lines 5-7.
[20] The Joint Petition for Approval of All Issues was filed on August 30, 2023, and approved in the Order cited in Fn. 18.

service, billing, meter reading, and response to customer complaints and dispute at levels consistent with the five-year historical average of the FirstEnergy distribution companies as reported to the Commission. To the extent such service levels are not met, the Company will report its plans to improve service levels with the parties.

Q. ARE THERE OTHER PROCEEDINGS THAT MR. JONES DID NOT IDENTIFY OR ADDRESS?

A. Yes. On October 31, 2019, the Companies filed a Joint Petition for Approval of their Involuntary Remote Disconnect Services.[21] This proceeding addressed the Company's proposal to utilize the remote disconnection feature of its smart metering system with certain conditions. The parties negotiated a Settlement of that proceeding with conditions that require FirstEnergy to implement policies and programs to address customer protection concerns with the use of remote disconnection.[22] The primary agreement was to require FirstEnergy to continue its Chapter 56 obligation to attempt personal contact with the customer or a responsible adult at the premises immediately prior to disconnection. In addition, FirstEnergy agreed to implement reforms to its credit and collection practices and customer notices and host collaborative sessions with the Settlement parties to review and provide input to the wide variety of internal training and process documents, as well as reporting requirements. I attach the extensive reforms and conditions agreed to by FirstEnergy as an excerpt from that Settlement as Exhibit BA-2.

Q. HAS FIRSTENERGY CONDUCTED COLLABORATIVE SESSIONS TO COMPLY

[21] Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, and West Penn Power Company for Approval of Their Involuntary Remote Disconnect Procedures; Docket Nos. P-2019-3013979; P-2019-3013980; P-2019-3013981; P-2019-3013982.

[22] Joint Petition for Settlement, Docket No. P-2019-3013979, et al. (October 25, 2022); Order, Docket No. P-2019-3013979, et al. (July 3, 2023).

WITH THIS SETTLEMENT ON THE USE OF REMOTE DISCONNECTION FUNCTIONALITY FOR ITS SMART METERING SYSTEM?

A. Yes. However, the length of time over which these consultations have occurred and the relatively slow pace of the Company's compliance in full has resulted in an overlap between these reforms and the filing of this base rate case.

Q. AS A RESULT, DO YOU HAVE ANY CONCERNS ABOUT FIRSTENERGY'S COMPLIANCE WITH ITS PRIOR SETTLEMENT CONDITIONS RELATING TO CUSTOMER SERVICE PERFORMANCE AND COMPLIANCE WITH CONSUMER PROTECTION REQUIREMENTS?

A. Yes. The failure of the Company to identify and report and discuss their compliance on these prior settlement conditions other than Mr. Jones' statement that the Company has maintained its call center performance is troubling. The absence of identification of these commitments and testimony concerning the status of compliance suggests a lack of attention and consideration for these requirements in the context of a request for a significant rate increase.

Q. WILL YOU IDENTIFY AND DISCUSS YOUR CONCERNS WITH THE COMMITMENTS IN THESE TWO PRIOR PROCEEDINGS AS THEY RELATE TO COMPLIANCE WITH CUSTOMER SERVICE PERFORMANCE AND CONSUMER PROTECTION REQUIREMENTS IN THIS RATE CASE?

A. Yes. I will raise several significant concerns in my testimony that are directly or indirectly related to the terms of the prior Settlements. However, at a minimum I recommend that FirstEnergy file a complete presentation of each of its commitments in the PA Consolidation Proceeding and the Remote Disconnection proceeding in its Rebuttal

testimony and provide up to date information on compliance and initiatives designed to ensure compliance that will be implemented as a condition of any rate increase ordered in this proceeding.

IV. FIRSTENERGY'S IMPLEMENTATION OF THE REMOTE DISCONNECTION SETTLEMENT ADOPTED IN 2022 IS A WORK IN PROGRESS

Q. HAS FIRSTENERGY FULLY COMPLIED WITH THE SETTLEMENT CONDITIONS SET FORTH IN THE REMOTE DISCONNECTION PROCEEDING AS DESCRIBED IN EXHIBIT BA-2?

A. No. The internal training materials, revisions of customer notices and bill formats, and the reporting requirements associated with the obligation to attempt personal conduct prior to the implementation of the remote disconnection feature are still under review. I am concerned that FirstEnergy has implemented several changes in its notices and customer communications that have not yet been the subject of an attempt to reach consensus reflecting the stakeholder's input. For example, there are several issues relating to the descriptions of the Medical Emergency requirement on several FirstEnergy customer notices as well as billing disclosures about the remote disconnection feature that are the subject of ongoing discussions.

Q. BASED ON YOUR REVIEW OF THE IMPLEMENTATION OF THE PERSONAL CONTACT REQUIREMENT, HAS FIRSTENERGY IMPLEMENTED THIS POLICY AND DOCUMENTED ITS RESULTS?

A. Yes. The evidence indicates that FirstEnergy has implemented a more rigorous and well-documented obligation to attempt contact with the customer or a responsible adult

immediately prior to disconnection of service. The reported results that are included in FirstEnergy's Response to OCA-XVI-1, Attachment A and that I attach as Exhibit BA-3 shows the importance of this consumer protection because these contacts result in an avoidance of termination of service under the conditions identified in Chapter 56 as well as the consideration of specific situations involving the health and safety of the residents that were only capable of being noticed with this personal contact policy.

Q. WHAT IS YOUR RECOMMENDATION WITH RESPECT TO THE ONGOING COLLABORATION TO CONSIDER THE IMPLEMENTATION OF THE REMOTE DISCONNECTION SETTLEMENT CONDITIONS?

A. I recommend that as a condition of this base rate case that FirstEnergy agree to continue the ongoing discussions and make changes that may result from these discussions promptly and without additional impact on the rates under consideration in this proceeding.

V. FIRSTENERGY DOES NOT MEET ITS OWN INTERNAL PERFORMANCE STANDARDS OR COMPLY WITH CERTAIN PREVIOUSLY AGREED TO COMMITMENTS

Q. HOW DOES FIRSTENERGY MONITOR ITS CUSTOMER SERVICE PERFORMANCE?

A. FirstEnergy Witness Mark Jones states that FirstEnergy seeks a "high standard of performance" and "operational excellence."[23] When asked to define those terms and how FirstEnergy measures these criteria, the response describes Key Performance Indicators (KPIs).[24] The 2023 FirstEnergy KPI metrics identifies a wide variety of corporate wide

[23] FirstEnergy St. No. 8, page 4, lines 11-12.
[24] FirstEnergy Response to OCA-V-43, Attachment A.

functions and data. I include the data response and the attached 2023 FirstEnergy KPI metrics and their results as Exhibit BA-4. I have two observations from this presentation that are relevant to this request for a base rate increase. First, FirstEnergy did not meet most of its internal metrics as indicated in the "annual results" column that appeared in the color red. Based on this information, it is not possible to claim that FirstEnergy delivers operational excellence. Second, there are no metrics specifically applicable to FirstEnergy Pennsylvania Electric Co. Finally, Mr. Jones' compensation, the primary FirstEnergy witness for customer service, does not reflect any of these results limited to their Pennsylvania operations.[25],[26]

Q. PLEASE SUMMARIZE FIRSTENERGY'S RECENT AND CURRENT PERFORMANCE AS REPORTED TO THE COMMISSION.

A. FirstEnergy's 2022 performance as reported to the Commission[27] was as follows:

- Call Center Service Level (% calls answered in 30 seconds) 81%
- % of Calls Abandoned 7%
- Busy-Out Rate 0.7% (0.8% West Penn)
- % of Bills Not Rendered Each Billing Period 0.01% to 0.04%
- % of Meters Not Read w/in 6 Months 0%
- % of Meters Not Read w/in 12 Months 0%
- % of Company Disputes Not Answered w/in 30 Days 0

Note: FirstEnergy reported data separately for its Pennsylvania EDCs in several categories

[25] FirstEnergy Response to OCA-V-1.
[26] FirstEnergy Response to OCA-XIV-2: "Mr. Jones's potential incentive is calculated from a FirstEnergy system-wide perspective."
[27] 2022 Customer Service Performance Report (September 2023). https://www.puc.pa.gov/filing-resources/reports/customer-service-performance-reports/

A. DOES THE CALL CENTER PERFORMANCE DATA REPORTED TO THE COMMISSION DIFFER FROM THE DATA PROVIDED IN DISCOVERY IN THIS PROCEEDING?

A. Yes. I attach the Company's response to discovery that asked for the call center performance data applicable to its Pennsylvania customers for the period January 2020 through the current month for which data was available[28] as Exhibit BA-5. In this presentation, customer calls are answered by a live agent less than 60% of the time in almost every month in 2022 and 2023. A significant improvement is recorded for the early months of 2024. When asked to explain this discrepancy, FirstEnergy stated that the calculation of this call center performance for the Commission includes all self-service calls answered by the IVR and is not calculated as FirstEnergy did in this data response, specifically for customers who select the option to enter the queue to speak to a customer service representative.[29] Whether or not the Commission's calculation is an appropriate presentation of customer service performance is not an issue in this proceeding, but in my opinion the data provided by FirstEnergy as internally reported in its response reflected in Exhibit BA-5 is a more realistic presentation of the customer experience and should be relied upon to determine the reasonableness of the Company's customer service performance. The performance experienced by customers who select the option to speak to a live customer representative and enter the queue has not been "excellent" or adequate and should be improved as reflected in the early 2024 results.

Q. WHY IS THE COMPANY'S CALL CENTER PERFORMANCE A CRUCIAL ASPECT

[28] FirstEnergy Response to OCA-V-18, Attachment A.
[29] FirstEnergy Response to OCA-IX-12.

OF CUSTOMER SERVICE PERFORMANCE?

A. FirstEnergy does not maintain any physical presence or office in Pennsylvania for its over 2 million customers to interact with a customer service representative to discuss rates and charges, billing or service quality questions, negotiate payment plans, or file a dispute.[30] As a result, the call center is the only means of interacting with the Company for routine or complicated concerns about bills, payments, or disputes.

Q. WHERE ARE FIRSTENERGY'S CALL CENTERS LOCATED AND WITH WHAT STAFFING LEVEL?

A. FirstEnergy maintains three call centers in Akron, OH, Fairmont, WV, and Reading, PA. As of April 2024, there is a total of 612 of full time equivalent staffing for these call centers with only 150 working from the Reading, PA center.[31] Over half of these individuals work from home.[32] While the Company states that it does not rely on third party contractors to operate its call center, over 38% (238 of 619) of those handling calls at these call centers are labeled "contractors" who are not "employees" in this data response[33] The "contractors" are temporary staff hired through agencies to handle customer calls.[34]

Q. WHAT ARE THE IMPLICATIONS FOR CUSTOMER SERVICE AND COMPLIANCE WITH PENNSYLVANIA REGULATORY REQUIREMENTS FOR RESIDENTIAL CUSTOMERS GIVEN THE FIRSTENERGY RELIANCE ON CALL CENTERS?

A. There are several obvious concerns. First, working remotely as most of these individuals

[30] FirstEnergy Response to OCA-V-50.
[31] FirstEnergy Response to OCA-V-15.
[32] FirstEnergy Response to OCA-V-16.
[33] Ibid.
[34] FirstEnergy Response to OCA-IX-7.

do, raises the concern about compliance with the Pennsylvania-specific rights and remedies available to residential customers. Such an employment scenario requires close monitoring of customer calls and audits of decisions by individuals who are not immediately available to interact with supervisors. Second, the reliance on temporary "contractors" for a significant number of individuals to answer the customer calls in a timely manner raises the concern about the qualifications and training of these temporary staff.

Q. HOW DOES FIRSTENERGY ASSURE THAT ITS "CONTRACTOR" CALL CENTER REPRESENTATIVES ARE QUALIFIED TO HANDLE PENNSYLVANIA CUSTOMER CALLS?

A. FirstEnergy claims that contractors are allowed to handle calls from Pennsylvania customers once they pass each stage of training and received a passing score on their assessment for each skill type.[35] Attached to this response are 12 Confidential Attachments that reflect training in handling a wide variety of customer calls as well as training on the IVR, text and email communications, and the customer data available on the internal FirstEnergy customer software. These attachments are voluminous, particularly those that include many of the crucial Pennsylvania rights and remedies, such as Attachment E, Basic Move-In and Move-Out (498 pages), Attachment F, Pennsylvania Credit and Collections (469 pages) Attachment G, Human Services Programs (267 pages). It is not realistic or reasonable to conclude that temporary hires in these call centers are fully trained to handle any of these complex transactions with multiple rights and remedies unique to Pennsylvania without a more rigorous approach.

[35] FirstEnergy Response to OCA-XVI-3.

Q. AS A RESULT OF YOUR REVIEW OF THE COMPANY'S CALL CENTER PERFORMANCE, WHAT DO YOU RECOMMEND AS A CONDITION OF THIS RATE CASE?

A. There is a serious question as to whether FirstEnergy has complied with its prior commitment on its call center performance based on the more realistic and reasonable internal calculations I have presented in my testimony. I recommend that FirstEnergy be required to maintain its call answering performance results as reflected in its most recent 2024 information as a condition of any rate increase. However, even if "compliance" with the call center based on Commission reporting definitions is adequate, the lack of documentation of realistic training and supervision for its virtual call center and "contractor" call center staffing should be improved. I recommend that FirstEnergy document routine audits of its call centers generally and temporary contractors specifically to document sufficient and realistic training prior to handling Pennsylvania customer calls. This concern is heightened by the small staffing level at the Reading, PA office and the obvious reliance on the out of state call centers to handle most Pennsylvania calls that are not routed based on the geographic location of the call center.

VI. FIRSTENERGY COMPLIANCE AND COMPLAINT HANDLING ARE INADEQUATE AND DO NOT CONFORM TO PRIOR COMMITMENTS

Q. ARE THERE OTHER INDICATORS OF COMPLIANCE AND COMPLAINT HANDLING THAT YOU HAVE REVIEWED AND THAT SHOULD BE CONSIDERED IN YOUR EVALUATION?

A. Yes. I have reviewed the Company's performance in handling customer complaints and

the performance in compliance as reported by the Commission's Bureau of Consumer Services in the UCARE Report.[36] The 2022 and 2023 Reports shows the 2022 and 2023 results for EDCs, including each of the Pennsylvania FirstEnergy EDCs:

[36] https://www.puc.pa.gov/filing-resources/reports/consumer-activities-report-evaluation/

BCS Categories	2022	2023	Comments
Residential Customer Complaints	Met-Ed: 634 Penelec:618 Penn Power:170 West Penn:752	Met-Ed: 791 Penelec:682 Penn Power:206 West Penn:862	25% increase 10% increase 21% increase 15% increase
Residential Payment Arrangement Requests (PARs)	Met-Ed: 2,494 Penelec:2,769 Penn Power:871 West Penn:2,981	Met-Ed: 3,128 Penelec:3,284 PennPower: 984 WestPenn:3,365	25% increase 19% increase 13% increase 13% increase
% Justified[37] Residential Customer Complaints	Met-Ed: 9.1% Penelec:8.9% Penn Power:6.5% West Penn:9.7%	Met-Ed: 5% Penelec:6% Penn Power:1% West Penn:4%	Improvement
% Justified[38] PARs	Met-Ed: 1.5% Penelec:2.2% Penn Power:2.4% West Penn:1.0%	Met-Ed: 3% Penelec:5% Penn Power:4% West Penn:2%	Increase
Response Time to Complaints and PARs (Days)	Met-Ed: 18.4/7.8 Penelec:18.9/8/8 Penn Power:18.7/9.1 West Penn:18.7/8.3	Met-Ed: 14.8/5.7 Penelec:14.7/5/8 Penn Power:14.6/5/9 West Penn:15.5/5/8	Improvement
Verified Infractions[39] (Chapter 56)	Met-Ed: 81 Penelec:79 Penn Power:19 West Penn:76	Met-Ed: 74 Penelec:99 Penn Power:21 West Penn:66	Mixed Results

Q. WHAT TRENDS ARE APPARENT FROM THIS HISTORICAL AND MOST RECENT INFORMATION?

A. The increase in customer complaints and PARs is an obvious trend that does not appear to be the subject of any FirstEnergy evaluation or analysis. The trend in lower "justified" complaints is not matched by the increase in "justified" PARs. The volume of "verified

[37] The BCS defines a Justified Consumer Complaint as "A consumer complaint where, prior to BCS intervention, the company did not comply with Commission Orders, policies, regulations, reports, Secretarial Letters, tariffs or guidelines when the consumer brought the complaint to the company's attention. The justified consumer complaint rate equals the number of justified consumer complaints for each 1,000 residential customers."

[38] The BCS defines a Justified PAR as, "A Payment Arrangement Request where, prior to BCS intervention, the company did not comply with Commission regulations, reports, Secretarial Letters, tariffs or guidelines. The justified payment arrangement request rate equals the number of justified payment arrangement requests for each 1,000 residential customers."

[39] The BCS defines an Infraction as "A misapplication or infringement of a Commission regulation, particularly the standards and billing practices for residential utility service."

infractions" does not reflect any substantive change.

Q. DOES FIRSTENERGY CONDUCT A PROPER ROOT CAUSE ANALYSIS OF COMPLAINTS AND BCS FINDINGS AS REQUIRED BY THE SETTLEMENT CONDITION IN THE 2016 BASE RATE CASE?

A. No. FirstEnergy has not conducted any analysis of "verified complaints" as reported by the BCS.[40] The FirstEnergy complaint analysis consists of evaluating specific complaints, most of which result in "counseling" the customer service representative.[41] Most importantly, FirstEnergy admits that it does not undertake a root cause analysis of customer complaints or BCS findings, a direct admission of noncompliance of the condition I cited in the 2016 base rate case.[42] I attach FirstEnergy's Response to OCA-V-63 as Exhibit BA-6.

Q. PLEASE DESCRIBE A PROPER ROOT CAUSE ANALYSIS.

A. A root cause analysis is a fact-based exercise in which the underlying cause or causes of an undesirable outcome(s) is identified and specific remedial steps are identified and determined to result in systematically correcting or improving the previously identified undesirable result. A list of customer complaints by category is not a root cause analysis. While there may be differences in approach about what a root cause analysis entails, the following summary by the American Society for Quality (ASQ) provides a helpful overview:

> A root cause is defined as a factor that caused a nonconformance and should be permanently eliminated through process improvement. The root cause is the core issue—the highest-level cause—that sets in motion the entire cause-and-effect reaction that ultimately leads to the problem(s).

[40] FirstEnergy Response to OCA-V-48.
[41] FirstEnergy Response to OCA-V-61 and V-62.
[42] FirstEnergy Response to OCA-V-63.

Root cause analysis (RCA) is defined as a collective term that describes a wide range of approaches, tools, and techniques used to uncover causes of problems. Some RCA approaches are geared more toward identifying true root causes than others, some are more general problem-solving techniques, and others simply offer support for the core activity of root cause analysis.

There are many methodologies, approaches, and techniques for conducting root cause analysis, including:

1. **Events and causal factor analysis:** Widely used for major, single-event problems, such as a refinery explosion, this process uses evidence gathered quickly and methodically to establish a timeline for the activities leading up to the accident. Once the timeline has been established, the causal and contributing factors can be identified.
2. **Change analysis:** This approach is applicable to situations where a system's performance has shifted significantly. It explores changes made in people, equipment, information, and more that may have contributed to the change in performance.
3. **Barrier analysis:** This technique focuses on what controls are in place in the process to either prevent or detect a problem, and which might have failed.
4. **Management oversight and risk tree analysis:** One aspect of this approach is the use of a tree diagram to look at what occurred and why it might have occurred.
5. **Kepner-Tregoe Problem Solving and Decision Making:** This model provides four distinct phases for resolving problems:
    1. Situation analysis
    2. Problem analysis
    3. Solution analysis
    4. Potential problem analysis[43]

According to the publications developed by the American Society for Quality, and other comparable publications[44], a proper analysis of any "root cause" requires the identification of "symptoms," which are not actual causes but signs of existing problems, and "first level causes," which are the causes that directly lead to a problem; and "higher level causes," which are links in the chain of cause-and-effect relationships that ultimately create the problem.[45]

[43] See American Society for Quality website for more general information: https://asq.org/quality-resources/root-cause-analysis
[44] There is an extensive body of literature used in the medical community to conduct root cause analysis and develop plans to prevent adverse events. See, e.g., https://www.cms.gov/medicare/provider-enrollment-and-certification/qapi/downloads/guidanceforrca.pdf
[45] See American Society for Quality website for more general information: https://asq.org/quality-resources/root-cause-analysis

Q. WHAT IS YOUR RECOMMENDATION IN LIGHT OF THIS CONCERN?

A. FirstEnergy has not complied with a prior settlement condition in the PA Consolidation Proceeding that explicitly requires regular root cause analysis of customer complaints and BCS findings.[46] This failure should be taken into account in the recommendations for rate of return and earnings in this proceeding. I recommend that FirstEnergy develop internal protocols for a regular and proper root cause analysis of its complaint trends, both for internal disputes and BCS informal complaints that document infractions and verified violations. This plan should require a root cause analysis of the type I have identified above and report on findings, including identification of trends, evaluation, steps to reform or avoid repeated trends, and internal steps taken to take proper internal enforcement action where needed within 3 months after the decision in this case and with quarterly updates to stakeholders on the results.

VII. FIRSTENERGY'S PROPOSED RATE ADJUSTMENT TO REFLECT UNKNOWN FUTURE LEGISLATIVE CHANGES TO CHAPTER 14 SHOULD BE REJECTED.

Q. PLEASE DESCRIBE FIRSTENERGY'S PROPOSAL WITH RESPECT TO A RATE ADJUSTMENT BASED ON POTENTIAL LEGISLATIVE CHANGES TO CHAPTER 14.

A. FirstEnergy Witness Mark Jones describes a number of potential changes to Chapter 14 of the Public Utility Code that he claims would result in an increase in uncollectible expense

[46] Paragraph 50 of the previously cited PA Consolidation Proceeding Settlement: "FE PA shall conduct a monthly review of customer disputes, complaints, and the Commission's Bureau of Consumer Services compliance findings to identify and respond to root cause(s) based on patterns and practices reflected in these indicia of customer dissatisfaction to ensure high level performance for its customers. The review will identify trends and areas for performance improvement and will be reported out to management. The monthly reports and management response will be shared at each quarterly meeting with the USAC."

for each FirstEnergy EDC and he identifies that FirstEnergy's estimated impact of specifically described changes is included in the revenue requirement in this filing.[47]

Q. WHAT IS YOUR OPINION OF THIS RECOMMENDATION?

A. I disagree with making changes to uncollectible expense based on hypothetical potential statutory changes to Chapter 14. Mr. Jones' calculations should be rejected for two reasons. First, the nature of the statutory changes is speculative. Second, the potential impact of any change to Chapter 14 on FirstEnergy's collection expenses is also speculative and fails to take into account the pros and cons of a combination of changes that may result in less than an assumed increase in bad debt and fails to reflect any efficiencies and alternative collection strategies that might ameliorate offset uncollectible expense.

VIII. FIRSTENERGY'S CUSTOMER BILLS SHOULD BE REFORMED TO ALLOW A PROPER COMPARISON OF DEFAULT SERVICE AND ELECTRIC GENERATION SUPPLIER (EGS) PRICES.

Q. PLEASE DESCRIBE HOW FIRSTENERGY BILLS PRESENT DEFAULT SERVICE AND EGS CHARGES.

A. Like other Pennsylvania EDCs, FirstEnergy purchases the receivables of the EGSs participating in its Purchase of Receivables (POR) Program and then bills and collects the EGS charges pursuant to the Chapter 56 collection regulations, including disconnection of service for nonpayment. As a result, the costs associated with the collection of the EGS bills are shifted to FirstEnergy's distribution service customers. I attach as Exhibit BA-7

[47] FirstEnergy St. No. 8, pages 12-13.

a FirstEnergy residential bill that reflects an EGS charge presented as a single cents per kWh rate and total amount. On this bill, the customer can compare the EGS cents per kWh charge of "0.119900" to the stated Price to Compare of "11.31 cents per kWh."[48] I also attach as Exhibit BA-8 a FirstEnergy residential bill that reflects an EGS charge labeled as "Bill Ready" in which the EGS charges are listed as two separate "energy charges" with two different cents per kWh rates ("0.0150" and "0.1299") for a total dollar amount.[49] The PTC on this bill is also 11.31 cents per kWh. FirstEnergy allows the EGS charges to be presented in either option.

Q. WHAT IS YOUR CONCERN ABOUT THIS BILL PRESENTATION OF EGS CHARGES?

A. First, the EGS has the discretion about how to present its charges on FirstEnergy's bills. This complicates the customer education and ability of customers to easily understand and compare their EGS charges to the PTC. In either case, the customer has to calculate what the total energy charge would be under the PTC to compare the EGS bill amount to default service. Second, the presentation of the EGS charges in Exhibit BA-8 complicates the consumer's ability to easily compare the supplier charges to default service since the EGS uses two different cents per kWh rates. The proper calculation would require the customer to divide the usage by the total amount of the EGS charges to understand the actual cents per kWh rate he/she is being charged. In this case, the customer is paying the EGS 14.899 cents per kWh compared to the 11.31 cents per kWh for the PTC. Third, in none of these bill presentations does FirstEnergy show the dollar amount of what the bill would be under the applicable PTC compared to the dollar amount of EGS charges.

[48] FirstEnergy Response to OCA-XVI-11, Attachment C.
[49] FirstEnergy Response to OCA-XVI-11, Attachment B.

Q. HAS FIRSTENERGY DONE ANY ANALYSIS OF BILL IMPACTS OR COLLECTION COSTS ASSOCIATED WITH EGS BILLS COMPARED TO DEFAULT SERVICE BILLS?

A. No. FirstEnergy has confirmed that it has not done any such analysis.[50] However, the Company has recently begun to track EGS related complaints submitted by its customers. Customer communications from September 2023 through March 2024 total 584 complaints about EGS service or charges: 125 Rate Issues; 15 Contract End Disputes; 363 Incorrect Enrollment/Slamming; 2 Payment Issues; 11 Supplier Charges Not Included on Bill, and 68 Supplier Misrepresentation.[51] It is not clear what FirstEnergy does with this information.

Q. WHAT DO YOU RECOMMEND?

A. I recommend that FirstEnergy require EGSs participating in the POR to calculate and present the cents per kWh rate based on their total bill amount in addition to any breakdown of their charges presented on the bill. In addition, FirstEnergy should calculate the customer's bill under the applicable PTC and provide that bill total as part of the PTC disclosure. This recommendation implements the necessary disclosures to allow the customer to make decisions to compare the PTC to EGS charges which is the fundamental purpose of the long standing Commission and EDC customer educational messages about shopping for alternative generation supply. It is not reasonable to emphasize the importance of comparing the PTC to EGS charges if this comparison is not properly presented to customers in a manner that is easily understandable and factually correct. This change empowers the customer to understand and make decisions about customer choice.

[50] FirstEnergy Response to OCA-V-56.
[51] FirstEnergy Response to OCA-V-60.

In addition, I recommend that FirstEnergy evaluate the impact of EGS charges on its distribution costs to collect EGS charges. Such investigation and analysis should rely on its newly instituted compilation and summary of EGS customer complaints and inform the Company about the costs associated with the POR program and may lead to a consideration to increase the discount charged to EGSs who bill rates and charges in excess of the PTC.

IX. FIRSTENERGY'S PROPOSAL TO ELIMINATE BILL PAYMENT FEES SHOULD BE APPROVED.

Q. DOES FIRSTENERGY PROPOSE TO ELIMINATE ADDITIONAL FEES FOR CERTAIN BILL PAYMENT METHODS USED BY ITS CUSTOMERS?

A. Yes. FirstEnergy has proposed to eliminate bill payment fees for any payment option promoted on its web portal or IVR to its customers. I support this reform. I also support the inclusion in rates of reasonable costs to process customer payments of all types. Since FirstEnergy has included in rates the payment fees based on a competitive solicitation for this service, I agree that these costs appear reasonable for inclusion in rates.[52]

X. THE COMMISSION SHOULD OPEN AN INVESTIGATIOIN OF FIRSTENERGY'S PROGRAM TO MARKET AND BILL NON-BASIC CHARGES ON CUSTOMER BILLS.

Q. DOES FIRSTENERGY MARKET AND INCLUDE NON-BASIC CHARGES ON ITS RESIDENTIAL CUSTOMER BILLS?

A. Yes. FirstEnergy markets and bills non-basic services to its customers as "FirstEnergy

[52] FirstEnergy Response to OCA-V-21.

Products and Services." These services include FirstEnergy Repair Plans that are administered by HomeServe: Exterior Water Service Line Protection Plan, Exterior Water Service Line Protection Plan, Exterior Electrical Line Protection Plan, Cooling System Repair Plan, Interior Electrical Line Protection Plan, and Water Heater Repair. FirstEnergy also markets and sells a Surge Assist Plan (administered by "FE Products") that includes a monthly fee that varies by the dollar amount of "protection" selected by the customer. FirstEnergy markets FE Quote-Bid (administered by FE Products): Electrical Services, Outdoor and Security Lights, and EV Charger Installation.[53] As of June 2024, 210,738 customers were enrolled in one or more of these non-basic programs.[54] FirstEnergy's states that its expenses and revenues for these services are recorded below the line and are not included in the revenue requirement for this rate case.[55] The Company uses its customer account information to market these services directly. There is no contractual entity or affiliated interest that provides these services since FirstEnergy claims that these are "FE-PA's non-basic charges."[56]

Q. DO YOU HAVE CONCERNS ABOUT THE DISCLOSURES ON THE CUSTOMER BILL WITH NON-BASIC CHARGES?

A. Yes. I attach a residential customer bill presenting non-basic services as Exhibit BA-9.[57] This bill lists the customer's services and the telephone number associated with each service. The non-basic charges are not labeled as such or differentiated from regulated distribution charges. These charges are listed under "Met-Ed Charges" and there is no

[53] FirstEnergy Response to OCA-V-67.
[54] FirstEnergy Response to OCA-XVI-12, Attachment A. The enrollment level has dropped slightly since 222,000+ in early 2023.
[55] FirstEnergy Response to OCA-V-70.
[56] FirstEnergy Response to OCA-V-68.
[57] FirstEnergy Response to OCA-V-67.

separate total for the non-basic charges. There is no information on the bill to explain that these are non-basic charges or that nonpayment of such charges will not be subject to disconnection.

Q. DOES FIRSTENERGY ISSUE MARKETING MATERIALS TO ITS CUSTOMERS TO PROMOTE THESE NON-BASIC SERVICES?

A. Yes. FirstEnergy routinely issues marketing materials to its customers to promote and solicit enrollment in these non-basic products and services. I attach a solicitation received by an OCA Employee from his Met-Ed customer account as Exhibit BA-10.[58] Contrary to statements made in data responses I have cited above concerning the lack of any contractual relationship between FirstEnergy and any entity that bills non-basic services on its customer bills, this document states:

> HomeServe is the contracted party with FirstEnergy and can only act under the express authority of the contract entered into by FirstEnergy and HomeServe. For plans in Pennsylvania, the Pennsylvania PUC regulations permit public utilities to bill customers for charges for other than basic service, which include, among other things, merchandise, appliance repairs, line repairs, and warranty programs and consistent with 52 Pa. Code § 56.13, these charges are displayed as separate line items on FirstEnergy's customers' bills.

Q. HOW DOES FIRSTENERGY RESPOND TO A CUSTOMER'S NONPAYMENT FOR NON-BASIC SERVICE CHARGES?

A. FirstEnergy does not include such charges in payment plans. However, on termination notices, "past due 'non-basic services'" charges are grouped with consumption charges on the customer's bill showing the totality of the balances past due. If the customer only has

[58] The OCA is conducting discovery to authenticate the document attached as Exhibit BA-10. Additionally, the OCA is conducting discovery to identify any other similar customer communications, and I reserve the right to supplement this discussion in my surrebuttal testimony with additional factual records that may come to light.

a past due balance for "non-basic services" they will not be terminated."[59] This response indicates that unpaid non-basic charges appear on the customer's termination notices for nonpayment of regulated distribution services, a practice that should not be allowed. The Company also sends letters to customers who are 90 days or more overdue on these service payments and after several communications, the service is cancelled but the remaining unpaid charges will appear on the customer's FirstEnergy bill.[60]

Q. DOES FIRSTENERGY'S WEB PORTAL PROMOTE THESE NON-BASIC SERVICES?

A. Yes. These services are accessed from the same web pages that present regulated distribution service information and regulated charges to its customers. Furthermore, the web page that promotes these services does not explain that they are non-basic services.[61]

Q. WHAT IS YOUR RECOMMENDATION?

A. My primary recommendation is that the Commission investigate this program to ensure that there is no subsidy by regulated distribution customers for these programs and to require significant reforms in how these programs are presented to Pennsylvania customers on customer bills, in marketing materials, on the Company's web portal, and in termination notices. This investigation should also review how FirstEnergy handles customer complaints about non-basic products appearing on their bill or the service they receive. FirstEnergy's customer bill does not include the necessary disclosures. FirstEnergy's web portal that promotes these programs does not disclose that these programs are "non-basic" and not required to be purchased from FirstEnergy or describe how these charges relate to

[59] FirstEnergy Response to OCA-IX-21.
[60] FirstEnergy Response to OCA-IX-22.
[61] See, e.g., https://www.firstenergycorp.com/products/products-services.html This page is accessed from a menu that appears on the landing page for Penelec that is labeled, "FirstEnergy Products and Services."

credit and collection actions for FirstEnergy's regulated services. Furthermore, the use of FirstEnergy's regulated service customer lists and billing data to market these unregulated products and services raises additional customer privacy concerns. The intermingling of regulated and unregulated and non-basic services in FirstEnergy's marketing, billing, and customer education activities is a matter of significant concern in light of the obligation of Pennsylvania's EDCs to restructure their operations to eliminate competitively available services and products from their regulated portfolio of services.

Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?

A. Yes.

Exhibit BA-1

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AARP
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Arkansas Attorney General
The Public Utility Project of New York
Ohio Office of Consumer Counsel
District of Columbia Office of People's Counsel
Delaware Division of Public Advocate
Maryland Office of People's Counsel

Areas of Expertise:

- Default Service, Consumer Protection, Service Quality, and Universal Service policies and programs associated with the alternative rate plans and mergers;
- Consumer Protection and Service Quality policies and programs associated with the regulation of competitive energy and telecommunications providers;
- The regulatory policies associated with the regulation of Credit, Collection, Consumer Protection, Low Income, and Service Quality programs and policies for public utilities;
- Customer Education and Rate design and pricing policies applicable to residential customers; and
- Advanced Metering Infrastructure and Grid Modernization costs and benefits, time-based pricing proposals, and performance standards.

Prior Employment

DIRECTOR

1986-96

Consumer Assistance Division

Maine Public Utilities Commission *Augusta, Maine*

One of five division directors appointed by a three-member regulatory commission and part of commission management team. Direct supervision of 10 employees, oversight of public utility consumer complaint function, appearance as an expert witness on customer services, consumer protection, service quality and low income policy issues before the PUC. Chair, NARUC Staff Subcommittee on Consumer Affairs.

SUPERINTENDENT

1979-83

Bureau of Consumer Credit Protection
Department of Professional and Financial Regulation *Augusta, Maine*

Director of an independent regulatory agency charged with the implementation of Maine Consumer Credit Code and Truth in Lending Act. Investigations and audits of financial institutions and retail creditors, enforcement activities, testimony before Maine Legislature and U.S. Congress.

Education

JURIS DOCTOR

1973-76

University of Maine School of Law *Portland, Maine*

Admitted to the Bar of the State of Maine, September 1976. Currently registered as "inactive."

B.A. (WITH DISTINCTION) IN POLITICAL SCIENCE 1964-68
University of Michigan *Ann Arbor, Michigan*

Boards and Commissions

Councilor, Winthrop (ME) City Council 2020-2022

Member, Board of Trustees, University of Maine System May 2022

Publications and Testimony

"How to Construct a Service Quality Index in Performance-Based Ratemaking", The Electricity Journal, April, 1996

"The Consumer Protection Agenda in the Electric Restructuring Debate", William A. Spratley & Associates, May, 1996

Direct Testimony on behalf of the Telecommunications Workers Union, Telecom Public Notice 96-8, Price Cap Regulation and Related Issues, Canadian Radio-Television and Telecommunications Commission, September, 1996. [Analysis of and recommendations concerning the need to regulate service quality in move to price cap regulation]

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Transportation Commission, September, 1996 [Need for and design of a Service Quality Index for both electric and gas business units as part of a multi-year rate plan]

Consumer Protection Proposals for Retail Electric Competition: Model Legislation and Regulations", Regulatory Assistance Project, Gardiner, ME, October, 1996

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Oppenheim, Gerald (NCLC) and Alexander, Barbara, Model Electricity Consumer Protection Disclosures, A Report to the National Council on Competition and the Electric Industry, April 1998.

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"Cramming is the Last Straw: A Proposal to Prevent and Discourage the Use of the Local Telephone Bill to Commit Fraud," NRRI Quarterly Bulletin, Fall. 1998.

Alexander, Barbara, Retail Electric Competition: A Blueprint for Consumer Protection, U.S. Department of Energy, Office of Energy and Renewable Energy, Washington, D.C., October 1998.

Alexander, Barbara, "Consumer Protection Issues in Electric Restructuring for Colorado: A Report to the Colorado Electricity Advisory Panel," on behalf of the Colorado Office of Consumer Counsel, February 1999.

Testimony on Proposed Interim Rules (Consumer Protection, Customer Enrollment, Code of Conduct, Supplier Licensing) on behalf of the New Jersey Division of Ratepayer Advocate before the New Jersey BPU, May 1999.

Direct Testimony on behalf of AARP, West Virginia PUC Investigation into Retail Electric Competition (consumer protection, universal service, Code of Conduct), June 15, 1999.

Direct and Surrebuttal Testimony on behalf of the Pennsylvania OCA, Natural Gas Restructuring proceedings (8 natural gas utilities): consumer protection; consumer education; code of conduct, before the Pennsylvania PUC, October 1999-April 2000.

Comments on Draft Rules addressing Slamming and Cramming (Docket No. RMU-99-7) on behalf of the Iowa Office of Consumer Advocate, before the Iowa Utilities Board, October 1999.

Alexander, Barbara, "Door to Door Sales of Competitive Energy Services," LEAP Letter, January-February 2000 [Wm. A. Spratley & Associates, Columbus, OH]

Direct Testimony on behalf of the Maine Office of Public Advocate, Central Maine Power Company Alternative Regulation Plan [Docket 99-666] on service quality issues, before the Maine PUC, May 2000.

Direct Testimony on behalf of AARP, Universal Service Programs and Funding of low-income programs for electric and natural gas service, before the New Jersey Board of Public Utilities, Docket No. EX000200091, July, 2000.

Comments (on behalf of NASUCA and AARP) on Uniform Business Practices Reports, May and September 2000.

Direct Testimony on behalf of the Pennsylvania OCA, Verizon-Pennsylvania Structural Separation Plan on service quality, customer service and consumer protection issues [Docket No. M-00001353] before the Pennsylvania PUC, October 2000.

Direct and Rebuttal Testimony on behalf of the Maine Office of Public Advocate, Verizon-Maine Alternative Form of Regulation on service quality issues [Docket No. 99-851] before the Maine PUC, January and February 2001.

Direct and Rebuttal Testimony on behalf of the Citizens Utility Board, Nicor Gas Customer Select Pilot Program, on consumer protection and regulation of competitive natural gas suppliers [Docket Nos. 00-0620 and 00-0621] before the Illinois Commerce Commission, December 2000 and February 2001.

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate on consumer protection and service quality issues associated with the pending merger between GPU Energy and FirstEnergy, before the Pennsylvania PUC, Docket Nos. A-110300F0095 and A-110400F.0040 (February and March, 2001)

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Alexander, Barbara, "Default Service: What Should be Done When the Experiment Goes Awry?" (April 2001)

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Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission, York Water Company base rate increase, Docket Nos. R-2022-3031340, R-2022-3032806 (August and September 2022) [Base rate case: analysis of customer service and consumer protection performance]

Direct, Rebuttal and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission, Columbia Gas of Pennsylvania Proposal for Green Path Tariff, Docket Nos. R-2022-3032167 and C-2022-3032404 (December 2022 and January and February 2023) [Proposal to offer an optional "green" product to residential customers with Renewable Natural Gas and Carbon Offsets]

Direct, Rebuttal, and Surrebuttal Testimony on behalf of AARP Maine before the Maine Public Utilities Commission, Central Maine Power Company Request for Distribution Rate Increase and Rate Design Changes, Docket No. 2022-00152 (December 2022, March and April 2023) [Rate impacts; multi-year rate plan; rate design]

Direct and Surrebuttal Testimony on behalf of AARP Maine before the Maine Public Utilities Commission, Versant Power Request for Approval of Rate Change, Docket No. 2022-00255 (January and April 2023) [Rate impacts, AMI costs and benefits]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Application of Manwalamink Water and Sewer and NextEra Water Pennsylvania, Docket Nos. A-2022-3035298, et al. (January and March 2023) [consumer protection; service quality; acquisition of small water and sewer utility]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, National Fuel Gas Distribution Corp. Base Rate Case, Docket No. R-2022-3035730 (January and March 2023) [analysis of consumer protection and service quality performance in base rate case]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Philadelphia Gas Works Base Rate Case, Docket No.R-2023-3037933 (May and July 2023) [analysis of consumer protection and service quality performance in base rate case]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, FirstEnergy Pennsylvania Electric Distribution Companies Application for Merger, Docket No. A-2023-3038771 et.al (June and August 2023) [analysis of implication of proposed merger for customer service performance and low income programs]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Pittsburgh Water and Sewer Authority Base Rate Case, Docket No. R-2023-3039920, et al., (August and September 2023) [customer service performance; compliance with statutory and regulatory rules; multi-year rate plan conditions]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Application of Pennsylvania-American Water Co. to Acquire Wastewater Assets of Borough of Brentwood, Docket No. A-2021-3024058 (October and November 2023) [analysis of public benefits of acquisition]

Direct, Supplemental Direct, and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Pennsylvania PUC v. Pennsylvania American Water Co., Docket Nos. R-2023-3043189 and R-2023-3043190 (February and March 2024) [customer service performance, compliance with statutory and regulatory rules; billing for non-basic services; tariffs]

Direct and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Pennsylvania PUC v. Peoples Natural Gas Company LLC, Docket No. R-2023-3044549 (March and May 2024) [customer service performance, compliance with statutory and regulatory rules; billing for non-basic services; tariffs]

Direct, Rebuttal, and Surrebuttal Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Petition of PECO Energy for Default Service Program for June 1, 2025 through May 31, 2029, Docket No. P-2024-3046008 (April and May 2024) [Retail Market Enhancement Programs; Standard Offer Program; TOU Rate; Billing Disclosures]

Direct Testimony on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, Petition of PPL Electric for Default Service Program for June 1, 2025 through May 31, 2029, Docket No.

P-2024-3047290 (June 2024) [Retail Market Enhancement Programs; Standard Offer Program; TOU Rate; Billing Disclosures]

Presentations and Training Programs:

- Presentation on Consumer Protection Policies for Solar Providers, New Mexico Public Regulatory Commission, Santa Fe, NM, January 2017
- Presentation on Residential Rate Design Policies, National Energy Affordability and Energy Conference, Denver, CO., June 2016
- Presentation on "Regulatory-Market Arbitrage: From Rate Base to Market and Back Again," before the Harvard Electricity Policy Group, Washington, D.C., March 2016.
- Presentation on Residential Rate Design and Demand Charges, NASUCA, November 2015.
- Alexander, Barbara, "Residential Demand Charges: A Consumer Perspective," presentation for Harvard Electricity Policy Group, Washington, D.C., June 2015.
- Presentation on "Future Utility Models: A Consumer Perspective," for Kleinman Center for Energy Policy, U. of Pennsylvania, August 2015.
- Presentation, EUCI Workshop on Demand Rates for Residential Customers, Denver, CO [May 2015]
- Presentation, Smart Grid Future, Brookings Institute, Washington, DC [July 2010]
- Participant, Fair Pricing Conference, Rutgers Business School, New Jersey [April 2010]
- Presentation on Smart Metering, National Regulatory Conference, Williamsburg, VA [May 2010]
- Presentation on Smart Metering, Energy Bar Association Annual Meeting, Washington, DC [November 2009]
- Presentation at Workshop on Smart Grid policies, California PUC [July 2009]
- National Energy Affordability and Energy Conference (NEAUC) Annual Conference
- NARUC annual and regional meetings
- NASUCA annual and regional meetings
- National Community Action Foundation's Annual Energy and Community Economic Development Partnerships Conference
- Testimony and Presentations to State Legislatures: Virginia, New Jersey, Texas, Kentucky, Illinois, and Maine
- Training Programs for State Regulatory Commissions: Pennsylvania, Georgia, Kentucky, Illinois, New Jersey
- DOE-NARUC National Electricity Forum
- AIC Conference on Reliability of Electric Service
- Institute of Public Utilities, MSU (Camp NARUC) [Instructor 1996-2006]
- Training Programs on customer service and service quality regulation for international regulators (India and Brazil) on behalf of Regulatory Assistance Project
- Georgia Natural Gas Deregulation Task Force [December 2001]
- Mid Atlantic Assoc. of Regulatory Utility Commissioners [July 2003]
- Illinois Commerce Commission's Post 2006 Initiative [April 2004]
- Delaware Public Service Commission's Workshop on Standard Offer Service [August 2004]

Exhibit BA-2

Joint Petition of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company for Approval of Their Involuntary Remote Disconnect Procedures:

Docket No. P-2019-3013979
Docket No. P-2019-3013980
Docket No. P-2019-3013981
Docket No. P-2019-3013982

JOINT PETITION
FOR APPROVAL OF SETTLEMENT
October 25, 2022

(Excerpts)

TERMS AND CONDITIONS OF SETTLEMENT

35. The Settlement consists of the following terms and conditions:

a. The Joint Petitioners agree that the Companies' Petition is approved except as modified below.

b. Nothing in this Settlement changes the Companies' obligations to comply with Chapters 14 and 15 of the Pennsylvania Public Utility Code and Chapter 56 of the Commission's regulations.

c. The Companies will continue to send an appropriately trained field representative to the customer's premises on the day that termination is scheduled to occur. The field representative will use reasonable efforts to make personal contact with a responsible adult occupant of the premises prior to effectuating termination.

d. The Companies will undertake a review of their standardized scripting, policies, and procedures for field representatives to ensure that they require field representatives to communicate all information required by 52 Pa. Code Section 56.97 to a customer or a responsible adult occupant of the customer's residence immediately prior to termination, and answer questions related to

the same. The standardized scripting, policies, and procedures will also require field representatives to:

i. Inquire as to whether the customer or a household member has been granted a Protection from Abuse ("PFA") Order or other court order that contains clear evidence of domestic violence, and direct the customer to where they can have related questions answered more fully;

ii. Inquire whether anyone in the household has a medical condition or serious illness that would be adversely affected by service termination and direct the customer to where they can have their related questions answered more fully;

iii. Provide a copy of the Commission's standard medical certificate form upon request, as provided for at: https://www.puc.pa.gov/media/1779/standard_medical_certificate_form.docx

iv. Suspend termination procedures for, at minimum, 3 business days to allow customers to contact a live customer service representative where:

1. the field representative becomes aware of an occupant is alleged to be seriously ill or affected with a medical condition which will be aggravated by cessation of service;
2. the customer or adult member of the household alleges a PFA order or other court order containing clear evidence of domestic violence exists; or
3. the field representative becomes aware that a dispute or complaint is pending related to the customer's account and/or the account has been locked.

4. If, at any time prior to the actual termination of service, a customer advises the Companies that the customer disputes any matter covered by 52 Pa. Code Chapter 56 including, but not limited to, credit determinations, deposit requirements, the accuracy of the Companies' metering or billing or the proper party to be charged, the Companies shall attempt to resolve the dispute.
5. When a termination dispute or complaint has been properly filed, termination shall be prohibited until resolution of the

   dispute or complaint. However, the disputing party shall pay undisputed portions of the bill.
6. To be timely filed, an informal complaint shall be filed prior to the day on which the Companies arrive to terminate service. If the Companies arrive to terminate service and posts a deferred termination notice in lieu of termination or otherwise fails to terminate service, the time for filing an informal complaint shall be extended until the end of the business day prior to the Companies again arriving to terminate service.
7. If evidence is presented which indicates that payment has been made, then termination may not occur. However, if the disputing party does not pay all undisputed portions of the bill, termination may occur.

v. Direct low income and vulnerable customers to the phone number to reach the Companies' live agent where the customer can receive information on the Companies' universal service and energy conservation programs and

related payment information.

e. In instances where the field representative is not able to make personal contact prior to termination, to leave a notice at the residence informing the customer that utility service is being disconnected and the steps necessary for reconnection. The notice shall include a contact number for the Companies where low-income and vulnerable customers can receive information on the Companies' universal service and energy conservation programs and related payment information. The Companies' post- termination notice will comply with and contain the information required by 52 Pa. Code Section 56.91 and will contain information in both English and Spanish. The Companies will undertake a review of their standardized scripting, policies, and procedures to ensure that, where contacted, a live customer service representative will be required to communicate all information pursuant to 52 Pa. Code Section 56.97 to the customer prior to termination of services.

f. The Companies will revise their medical certificate policies and associated training to accept the Commission's standardized medical certificate form or other writing which contains the required elements pursuant to 52 Pa. Code Section 56.113. Customer service representatives will be trained to advise consumers seeking a medical certificate that a standardized form can be found on the Commission's website and will provide an accessible link to the Commission's standardized form on its website.

g. In addition to their existing notices, which the Companies will continue to provide to all residential customers, the Companies will begin to provide consumers with the option to also receive digital notice to assist with customer payment options. This additional option will be implemented by no later than June 1,

2023. In addition to providing payment options, digital notices will also refer customers to further information regarding methods of staying connected or reconnecting to services, including through

enrollment in universal service programs, utilizing medical certificates, if the customer has a PFA order or other court order containing clear evidence of domestic violence, or if a dispute or complaint is pending. Digital notice options will be consistent with the Commission's privacy guidelines. Parties will be given the opportunity to review and provide feedback on the proposed digital notices prior to implementation of the digital notices. Digital notice options will be voluntary and will require that customers have given prior consent that is recorded in the Company's system to use specific digital notice options. Customers will have the option to opt out of digital notice options by either verbal or written communication to the Companies or their representatives. Customers will be sent, at minimum, a yearly reminder that they have signed up for digital notice options, that they should provide the Companies with current and updated e-mail and other contact information, and that they have the right to opt-out of digital notice options at any time.

h. Upon customer notification and confirmation in the Companies' systems that payment has been made or other reason to restore service has been provided, the Companies will reconnect the customer's service using the remote switch during the same business day (defined as outlined in Paragraph i) as the confirmation has occurred, unless infeasible due to technical metering issues or as provided under footnote 2.

i. The Companies' hours for reconnection are currently between 8 a.m. and 6 p.m., Monday through Friday. The Companies commit to modifying their reconnection hours as follows[2]:

i. Upon Commission approval of the Joint Petition: If the customer's reconnection requirements are satisfied, reconnection will occur between 8 a.m. and 10 p.m., Monday through Friday. A customer's reconnection requirement may be satisfied where, including but not limited to, a customer receives a grant, enrolls in the Companies' low-income program ("PCAP"), enters into a payment plan or arrangement related to the payment requirement amount, where a medical certificate is submitted; or any combination of these actions sufficient to restore service;

ii. No later than 36 months after Commission approval: If the customer's reconnection requirements are satisfied, reconnection will occur between 8 a.m. and 10 p.m., seven days a week. The Companies will make a good faith effort to implement this change within 18 months following Commission approval.

j. The Companies will communicate the new remote disconnect process to all customers via bill messages and to customers at risk for termination through disconnection and post-termination notices.

k. Upon Commission approval of the Joint Petition, the Companies will provide an annual report regarding remote connect/termination metrics that includes:

i. The number of remote terminations for all residential customers;

ii. The number of remote reconnects for all residential customers;

iii. The number of remote terminations for PCAP customers;

iv. The number of remote reconnects for PCAP customers;

v. The average time it took to process a reconnection using the remote switch for all residential customers from the time that the customer met all requirements for reconnection.

l. The Companies will host a collaborative within one month of filing its first report under paragraph k. to review data collected pursuant to the terms of this Settlement, as well as progress on the reporting capabilities outlined in Paragraph m.

m. The Companies will undertake a review of its reporting capabilities to determine an effective way of identifying the following:

i. Confirmed low-income termination and reconnection data.

ii. The length of time that residential, confirmed low income, and PCAP customers remain without service following an involuntary termination (disaggregated by customer group).

iii. Whether attempts to make personal contact with an adult at the residence immediately prior to termination resulted in the

suspension of an active termination, and the reason for that suspension.

iv. A comparison of the data reported in Paragraph k. (i)-(v) against the number and percentage of manual terminations or reconnections the Companies performed, including an identification of the reason(s) why termination or reconnection was unable to be performed remotely.

n. The Companies will perform an analysis of the changes in costs as a result of performing remote terminations and reconnections.

The Companies will propose an appropriate reconnection fee based on actual costs in their next base rate proceedings.

o. Within 6 months of a final order in this proceeding, the Companies will host a collaborative with the parties to this proceeding to discuss the findings from its internal review and analysis of its policies and procedures, trainings, scripting, written notices, and data tracking outlined in this Settlement. The Companies will explain what reforms it intends to make as a result of its review. Topics for discussion at the collaborative will include, at minimum, language access processes and procedures, training frequency, termination notices (including written, verbal, scripted, and electronic), data tracking, and review of collected data points. The Companies will provide the parties with an opportunity to review updated materials and provide input and recommendations for additional revision or reform. Within 9 months of the issuance of a final order in this proceeding, the Companies will host a second collaborative to discuss the Companies' response to the parties' recommendations. The Companies will report on the data outlined in this paragraph to its Universal Service Advisory Committee ("USAC") and consider feedback or recommendations by the USAC related to this data in good faith.

Exhibit BA-3

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set XVI, No. 1

"With regard to the data identified in response to OCA-IX-1 (a)-(c) and (h)-(k), provide the monthly number of premises visited and the compilation of this data for January 2023 to the present month for which data is available."

RESPONSE:

See FE PA Response to OCA Interrogatory Set XVI, No. 001, Attachment A.

		Personal contact achieved (a.)						
	Number of premises visited for termination of non-payment	Responsible adult	Not a responsible adult	Medical emergency declared (b.)	Protection from Abuse Order declared (c.)	Field operator declined termination based on personal observations and concerns (h.)	Termination implemented after personal contact (i)	No response; termination implemented (j.)
Jan-23	1,072	111	1	3	-	20	96	958
Feb-23	1,135	101	1	1	-	29	80	1,025
Mar-23	1,385	126	1	2	-	31	101	1,251
Apr-23	8,625	1,602	15	103	1	201	1,381	6,973
May-23	11,348	2,038	24	100	2	289	1,764	9,224
Jun-23	8,189	1,546	43	76	6	204	1,366	6,571
Jul-23	7,887	1,571	50	92	4	311	1,302	6,222
Aug-23	9,932	1,932	55	117	15	358	1,633	7,893
Sep-23	9,304	1,700	12	204	12	275	1,350	7,497
Oct-23	13,706	2,214	28	408	35	277	1,650	11,395
Nov-23	2,645	446	7	93	6	41	320	2,190
Dec-23	911	86	-	11	-	22	61	822
Jan-24	619	55	-	5	-	33	47	562
Feb-24	1,416	143	1	15	1	24	124	1,256
Mar-24	2,697	218	-	18	1	26	182	2,468
Apr-24	14,718	2,570	20	625	27	94	1,902	12,096
May-24	15,321	2,638	23	638	20	153	1,918	12,615

Note: The total terminated and total not terminated will not add up precisely. If a 72 hour extension is given (due to b, c or h) and that 72 hour extension expires without additional customer action to stop further disconnection activity the account will be worked for termination which may cause duplicates of termination implmeneted and termination not implmeneted for the same premise visited.

Exhibit BA-4

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
MET-ED	41,424	5,199,238	1	2018	565359	9.20	125.51	0.07
MET-ED	32,076	3,877,651	2	2018	565359	6.86	120.89	0.06
MET-ED	31,444	2,627,303	3	2018	565359	4.65	83.55	0.06
MET-ED	73,885	9,309,620	4	2018	565359	16.47	126.00	0.13
MET-ED	40,098	4,279,357	5	2018	565359	7.57	106.72	0.07
MET-ED	74,499	10,050,897	6	2018	565359	17.78	134.91	0.13
MET-ED	52,793	7,613,137	7	2018	565359	13.47	144.21	0.09
MET-ED	82,240	14,639,349	8	2018	565359	25.89	178.01	0.15
MET-ED	70,224	7,006,860	9	2018	565359	12.39	99.78	0.12
MET-ED	50,714	4,316,503	10	2018	565359	7.63	85.11	0.09
MET-ED	82,901	11,263,327	11	2018	565359	19.92	135.86	0.15
MET-ED	24,104	3,159,961	12	2018	565359	5.59	131.10	0.04
MET-ED	39,942	5,890,958	1	2019	566218	10.40	147.49	0.07
MET-ED	74,342	17,716,092	2	2019	566218	31.29	238.31	0.13
MET-ED	48,337	7,790,930	3	2019	566218	13.76	161.18	0.09
MET-ED	84,232	10,918,844	4	2019	566218	19.28	129.63	0.15
MET-ED	110,582	21,076,136	5	2019	566218	37.22	190.59	0.20
MET-ED	85,625	8,810,519	6	2019	566218	15.56	102.90	0.15
MET-ED	106,187	15,273,215	7	2019	566218	26.97	143.83	0.19
MET-ED	55,875	8,741,243	8	2019	566218	15.44	156.44	0.10
MET-ED	28,837	4,652,401	9	2019	566218	8.22	161.33	0.05
MET-ED	79,646	13,104,772	10	2019	566218	23.14	164.54	0.14
MET-ED	65,971	9,451,096	11	2019	566218	16.69	143.26	0.12
MET-ED	96,071	20,490,772	12	2019	566218	36.19	213.29	0.17
MET-ED	48,930	5,126,318	1	2020	569922	8.99	104.77	0.09
MET-ED	62,557	5,037,335	2	2020	569922	8.84	80.52	0.11
MET-ED	37,512	2,908,598	3	2020	569922	5.10	77.54	0.07
MET-ED	121,244	19,012,297	4	2020	569922	33.36	156.81	0.21
MET-ED	45,356	4,009,007	5	2020	569922	7.03	88.39	0.08
MET-ED	49,723	6,405,261	6	2020	569922	11.24	128.82	0.09
MET-ED	102,264	14,928,273	7	2020	569922	26.19	145.98	0.18
MET-ED	71,786	12,775,891	8	2020	569922	22.42	177.97	0.13
MET-ED	26,166	3,453,954	9	2020	569922	6.06	132.00	0.05
MET-ED	38,112	4,329,560	10	2020	569922	7.60	113.60	0.07
MET-ED	83,036	22,448,152	11	2020	569922	39.39	270.34	0.15
MET-ED	37,479	7,998,339	12	2020	569922	14.03	213.41	0.07
MET-ED	56,988	3,279,206	1	2021	573243	5.72	57.54	0.10
MET-ED	18,289	2,555,043	2	2021	573243	4.46	139.70	0.03
MET-ED	53,376	9,140,607	3	2021	573243	15.95	171.25	0.09
MET-ED	49,719	9,458,731	4	2021	573243	16.50	190.24	0.09
MET-ED	66,596	8,464,774	5	2021	573243	14.77	127.11	0.12
MET-ED	98,781	18,967,385	6	2021	573243	33.09	192.01	0.17

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
MET-ED	131,463	26,074,656	7	2021	573243	45.49	198.34	0.23
MET-ED	78,445	16,308,936	8	2021	573243	28.45	207.90	0.14
MET-ED	53,272	6,922,578	9	2021	573243	12.08	129.95	0.09
MET-ED	62,213	12,340,716	10	2021	573243	21.53	198.36	0.11
MET-ED	44,999	5,279,261	11	2021	573243	9.21	117.32	0.08
MET-ED	58,621	14,614,603	12	2021	573243	25.49	249.31	0.10
MET-ED	49,351	9,794,798	1	2022	575899	17.01	198.47	0.09
MET-ED	89,400	21,118,739	2	2022	575899	36.67	236.23	0.16
MET-ED	84,073	15,278,579	3	2022	575899	26.53	181.73	0.15
MET-ED	36,026	4,446,381	4	2022	575899	7.72	123.42	0.06
MET-ED	77,157	10,037,751	5	2022	575899	17.43	130.10	0.13
MET-ED	63,250	7,633,172	6	2022	575899	13.25	120.68	0.11
MET-ED	63,569	11,153,400	7	2022	575899	19.37	175.45	0.11
MET-ED	71,610	10,115,073	8	2022	575899	17.56	141.25	0.12
MET-ED	82,147	9,070,273	9	2022	575899	15.75	110.42	0.14
MET-ED	40,282	5,246,084	10	2022	575899	9.11	130.23	0.07
MET-ED	69,104	11,990,900	11	2022	575899	20.82	173.52	0.12
MET-ED	35,038	5,883,554	12	2022	575899	10.22	167.92	0.06
MET-ED	48,367	3,935,610	1	2023	580873	6.78	81.37	0.08
MET-ED	22,616	4,197,549	2	2023	580873	7.23	185.60	0.04
MET-ED	50,268	8,628,388	3	2023	580873	14.85	171.65	0.09
MET-ED	79,615	18,590,721	4	2023	580873	32.00	233.51	0.14
MET-ED	36,921	4,287,803	5	2023	580873	7.38	116.13	0.06
MET-ED	87,753	13,691,461	6	2023	580873	23.57	156.02	0.15
MET-ED	102,690	23,067,064	7	2023	580873	39.71	224.63	0.18
MET-ED	47,871	15,998,308	8	2023	580873	27.54	334.20	0.08
MET-ED	121,575	34,996,065	9	2023	580873	60.25	287.86	0.21
MET-ED	35,186	3,907,633	10	2023	580873	6.73	111.06	0.06
MET-ED	55,290	7,479,513	11	2023	580873	12.88	135.28	0.10
MET-ED	51,746	10,425,570	12	2023	580873	17.95	201.48	0.09
MET-ED	110,972	33,000,730	1	2024	581953	56.71	297.38	0.19
MET-ED	96,892	40,433,567	2	2024	581953	69.48	417.31	0.17
MET-ED	82,271	16,517,224	3	2024	581953	28.38	200.77	0.14
PENELEC	62,396	5,327,738	1	2018	580198	9.18	85.39	0.11
PENELEC	35,855	4,227,186	2	2018	580198	7.29	117.90	0.06
PENELEC	32,062	3,409,316	3	2018	580198	5.88	106.34	0.06
PENELEC	60,231	7,131,355	4	2018	580198	12.29	118.40	0.10
PENELEC	116,720	14,980,544	5	2018	580198	25.82	128.35	0.20
PENELEC	100,983	10,102,565	6	2018	580198	17.41	100.04	0.17
PENELEC	111,813	15,817,277	7	2018	580198	27.26	141.46	0.19
PENELEC	93,933	10,009,447	8	2018	580198	17.25	106.56	0.16
PENELEC	152,520	14,987,279	9	2018	580198	25.83	98.26	0.26

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
PENELEC	98,289	11,021,145	10	2018	580198	19.00	112.13	0.17
PENELEC	95,673	11,846,718	11	2018	580198	20.42	123.83	0.16
PENELEC	34,457	4,434,388	12	2018	580198	7.64	128.69	0.06
PENELEC	70,285	8,899,759	1	2019	579647	15.35	126.62	0.12
PENELEC	50,072	5,325,343	2	2019	579647	9.19	106.35	0.09
PENELEC	73,121	6,545,066	3	2019	579647	11.29	89.51	0.13
PENELEC	108,378	19,874,448	4	2019	579647	34.29	183.38	0.19
PENELEC	103,223	14,115,189	5	2019	579647	24.35	136.74	0.18
PENELEC	119,801	12,497,763	6	2019	579647	21.56	104.32	0.21
PENELEC	84,938	15,620,161	7	2019	579647	26.95	183.90	0.15
PENELEC	140,796	23,651,533	8	2019	579647	40.80	167.98	0.24
PENELEC	48,891	5,724,818	9	2019	579647	9.88	117.09	0.08
PENELEC	81,551	9,834,698	10	2019	579647	16.97	120.60	0.14
PENELEC	36,389	4,372,749	11	2019	579647	7.54	120.17	0.06
PENELEC	77,750	19,636,694	12	2019	579647	33.88	252.56	0.13
PENELEC	51,244	7,088,480	1	2020	579765	12.23	138.33	0.09
PENELEC	43,741	4,291,530	2	2020	579765	7.40	98.11	0.08
PENELEC	67,154	5,620,860	3	2020	579765	9.70	83.70	0.12
PENELEC	108,273	20,043,851	4	2020	579765	34.57	185.12	0.19
PENELEC	75,580	6,834,888	5	2020	579765	11.79	90.43	0.13
PENELEC	123,342	11,242,789	6	2020	579765	19.39	91.15	0.21
PENELEC	93,945	11,510,312	7	2020	579765	19.85	122.52	0.16
PENELEC	100,464	25,011,384	8	2020	579765	43.14	248.96	0.17
PENELEC	69,519	10,525,244	9	2020	579765	18.15	151.40	0.12
PENELEC	53,444	6,187,707	10	2020	579765	10.67	115.78	0.09
PENELEC	66,571	8,213,729	11	2020	579765	14.17	123.38	0.11
PENELEC	61,283	7,533,494	12	2020	579765	12.99	122.93	0.11
PENELEC	49,250	11,449,628	1	2021	580180	19.73	232.48	0.08
PENELEC	28,249	3,757,171	2	2021	580180	6.48	133.00	0.05
PENELEC	135,509	24,708,224	3	2021	580180	42.59	182.34	0.23
PENELEC	78,184	9,429,099	4	2021	580180	16.25	120.60	0.13
PENELEC	113,888	10,996,545	5	2021	580180	18.95	96.56	0.20
PENELEC	111,770	17,105,284	6	2021	580180	29.48	153.04	0.19
PENELEC	133,309	21,903,996	7	2021	580180	37.75	164.31	0.23
PENELEC	116,378	18,787,689	8	2021	580180	32.38	161.44	0.20
PENELEC	88,045	10,551,399	9	2021	580180	18.19	119.84	0.15
PENELEC	67,462	8,653,042	10	2021	580180	14.91	128.27	0.12
PENELEC	69,448	6,988,324	11	2021	580180	12.05	100.63	0.12
PENELEC	73,512	16,194,499	12	2021	580180	27.91	220.30	0.13
PENELEC	48,548	6,257,044	1	2022	579537	10.80	128.88	0.08
PENELEC	97,023	14,919,085	2	2022	579537	25.74	153.77	0.17
PENELEC	104,861	17,626,273	3	2022	579537	30.41	168.09	0.18

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
PENELEC	107,963	59,423,875	4	2022	579537	102.54	550.41	0.19
PENELEC	114,639	14,774,105	5	2022	579537	25.49	128.88	0.20
PENELEC	106,038	17,988,532	6	2022	579537	31.04	169.64	0.18
PENELEC	121,721	24,865,068	7	2022	579537	42.91	204.28	0.21
PENELEC	97,220	13,917,766	8	2022	579537	24.02	143.16	0.17
PENELEC	55,552	7,238,961	9	2022	579537	12.49	130.31	0.10
PENELEC	42,826	4,347,396	10	2022	579537	7.50	101.51	0.07
PENELEC	65,344	9,738,846	11	2022	579537	16.80	149.04	0.11
PENELEC	103,848	20,008,403	12	2022	579537	34.52	192.67	0.18
PENELEC	40,608	5,344,068	1	2023	585139	9.13	131.60	0.07
PENELEC	74,026	9,363,178	2	2023	585139	16.00	126.48	0.13
PENELEC	143,998	59,139,799	3	2023	585139	101.07	410.70	0.25
PENELEC	60,355	9,542,139	4	2023	585139	16.31	158.10	0.10
PENELEC	79,735	9,661,939	5	2023	585139	16.51	121.18	0.14
PENELEC	79,485	9,443,424	6	2023	585139	16.14	118.81	0.14
PENELEC	156,490	29,652,074	7	2023	585139	50.68	189.48	0.27
PENELEC	111,556	16,183,866	8	2023	585139	27.66	145.07	0.19
PENELEC	64,321	12,984,641	9	2023	585139	22.19	201.87	0.11
PENELEC	34,467	3,691,149	10	2023	585139	6.31	107.09	0.06
PENELEC	48,666	6,997,556	11	2023	585139	11.96	143.79	0.08
PENELEC	44,386	5,481,269	12	2023	585139	9.37	123.49	0.08
PENELEC	73,785	10,244,906	1	2024	593849	17.25	138.85	0.12
PENELEC	81,269	12,924,925	2	2024	593849	21.76	159.04	0.14
PENELEC	73,267	10,183,165	3	2024	593849	17.15	138.99	0.12
PENN POWER	8,001	734,369	1	2018	163633	4.49	91.78	0.05
PENN POWER	7,320	1,084,019	2	2018	163633	6.62	148.09	0.04
PENN POWER	11,713	3,053,660	3	2018	163633	18.66	260.71	0.07
PENN POWER	13,929	1,701,297	4	2018	163633	10.40	122.14	0.09
PENN POWER	22,611	2,186,064	5	2018	163633	13.36	96.68	0.14
PENN POWER	34,868	2,968,887	6	2018	163633	18.14	85.15	0.21
PENN POWER	23,606	3,946,054	7	2018	163633	24.12	167.16	0.14
PENN POWER	19,565	1,958,287	8	2018	163633	11.97	100.09	0.12
PENN POWER	21,091	4,354,100	9	2018	163633	26.61	206.44	0.13
PENN POWER	7,136	969,939	10	2018	163633	5.93	135.92	0.04
PENN POWER	5,593	1,168,125	11	2018	163633	7.14	208.85	0.03
PENN POWER	4,823	814,585	12	2018	163633	4.98	168.90	0.03
PENN POWER	10,428	1,389,128	1	2019	164199	8.46	133.21	0.06
PENN POWER	8,271	1,100,673	2	2019	164199	6.70	133.08	0.05
PENN POWER	13,710	890,559	3	2019	164199	5.42	64.96	0.08
PENN POWER	21,071	2,622,522	4	2019	164199	15.97	124.46	0.13
PENN POWER	32,605	5,391,740	5	2019	164199	32.84	165.37	0.20
PENN POWER	44,876	4,689,601	6	2019	164199	28.56	104.50	0.27

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
PENN POWER	21,881	4,272,652	7	2019	164199	26.02	195.27	0.13
PENN POWER	23,812	2,193,531	8	2019	164199	13.36	92.12	0.15
PENN POWER	10,871	1,270,077	9	2019	164199	7.73	116.83	0.07
PENN POWER	19,686	3,035,496	10	2019	164199	18.49	154.20	0.12
PENN POWER	14,434	1,679,197	11	2019	164199	10.23	116.34	0.09
PENN POWER	5,100	616,527	12	2019	164199	3.75	120.89	0.03
PENN POWER	12,886	2,543,371	1	2020	165229	15.39	197.37	0.08
PENN POWER	4,355	439,718	2	2020	165229	2.66	100.97	0.03
PENN POWER	13,059	1,823,466	3	2020	165229	11.04	139.63	0.08
PENN POWER	7,807	2,269,395	4	2020	165229	13.73	290.69	0.05
PENN POWER	16,942	2,349,393	5	2020	165229	14.22	138.67	0.10
PENN POWER	26,556	5,785,151	6	2020	165229	35.01	217.85	0.16
PENN POWER	23,515	2,786,971	7	2020	165229	16.87	118.52	0.14
PENN POWER	16,116	2,769,164	8	2020	165229	16.76	171.83	0.10
PENN POWER	7,948	931,105	9	2020	165229	5.64	117.15	0.05
PENN POWER	6,940	690,507	10	2020	165229	4.18	99.50	0.04
PENN POWER	18,850	6,398,586	11	2020	165229	38.73	339.45	0.11
PENN POWER	4,933	789,175	12	2020	165229	4.78	159.98	0.03
PENN POWER	956	111,794	1	2021	166590	0.67	116.94	0.01
PENN POWER	3,586	231,291	2	2021	166590	1.39	64.50	0.02
PENN POWER	2,653	448,891	3	2021	166590	2.69	169.20	0.02
PENN POWER	2,644	347,668	4	2021	166590	2.09	131.49	0.02
PENN POWER	6,233	924,647	5	2021	166590	5.55	148.35	0.04
PENN POWER	21,184	3,358,834	6	2021	166590	20.16	158.56	0.13
PENN POWER	34,116	7,439,850	7	2021	166590	44.66	218.08	0.20
PENN POWER	48,205	4,683,238	8	2021	166590	28.11	97.15	0.29
PENN POWER	9,229	1,047,500	9	2021	166590	6.29	113.50	0.06
PENN POWER	16,186	584,972	10	2021	166590	3.51	36.14	0.10
PENN POWER	8,359	754,821	11	2021	166590	4.53	90.30	0.05
PENN POWER	13,942	1,640,001	12	2021	166590	9.84	117.63	0.08
PENN POWER	2,768	317,834	1	2022	167618	1.90	114.82	0.02
PENN POWER	9,649	2,440,171	2	2022	167618	14.56	252.89	0.06
PENN POWER	12,313	1,329,235	3	2022	167618	7.93	107.95	0.07
PENN POWER	7,893	1,555,603	4	2022	167618	9.28	197.09	0.05
PENN POWER	23,771	1,971,258	5	2022	167618	11.76	82.93	0.14
PENN POWER	40,544	5,660,015	6	2022	167618	33.77	139.60	0.24
PENN POWER	15,243	2,204,374	7	2022	167618	13.15	144.62	0.09
PENN POWER	14,514	2,079,654	8	2022	167618	12.41	143.29	0.09
PENN POWER	6,628	907,520	9	2022	167618	5.41	136.92	0.04
PENN POWER	16,934	1,043,306	10	2022	167618	6.22	61.61	0.10
PENN POWER	9,225	1,471,725	11	2022	167618	8.78	159.54	0.06
PENN POWER	7,267	1,302,504	12	2022	167618	7.77	179.24	0.04

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
PENN POWER	14,335	1,030,057	1	2023	171259	6.01	71.86	0.08
PENN POWER	7,595	869,584	2	2023	171259	5.08	114.49	0.04
PENN POWER	4,877	1,036,766	3	2023	171259	6.05	212.58	0.03
PENN POWER	11,080	1,116,427	4	2023	171259	6.52	100.76	0.06
PENN POWER	15,373	1,106,578	5	2023	171259	6.46	71.98	0.09
PENN POWER	14,472	1,978,646	6	2023	171259	11.55	136.72	0.08
PENN POWER	18,017	2,758,332	7	2023	171259	16.11	153.10	0.11
PENN POWER	18,816	7,552,605	8	2023	171259	44.10	401.39	0.11
PENN POWER	5,197	866,521	9	2023	171259	5.06	166.73	0.03
PENN POWER	7,249	781,885	10	2023	171259	4.57	107.86	0.04
PENN POWER	3,478	471,738	11	2023	171259	2.75	135.63	0.02
PENN POWER	12,251	1,205,505	12	2023	171259	7.04	98.40	0.07
PENN POWER	24,384	3,014,678	1	2024	175548	17.17	123.63	0.14
PENN POWER	3,718	515,144	2	2024	175548	2.93	138.55	0.02
PENN POWER	12,211	638,947	3	2024	175548	3.64	52.33	0.07
WEST PENN	41,897	6,646,428	1	2018	716367	9.28	158.64	0.06
WEST PENN	51,932	8,607,836	2	2018	716367	12.02	165.75	0.07
WEST PENN	58,932	11,118,045	3	2018	716367	15.52	188.66	0.08
WEST PENN	83,091	13,233,668	4	2018	716367	18.47	159.27	0.12
WEST PENN	113,091	25,954,767	5	2018	716367	36.23	229.50	0.16
WEST PENN	94,272	12,069,167	6	2018	716367	16.85	128.02	0.13
WEST PENN	101,636	15,343,069	7	2018	716367	21.42	150.96	0.14
WEST PENN	78,519	11,879,612	8	2018	716367	16.58	151.30	0.11
WEST PENN	53,363	7,166,514	9	2018	716367	10.00	134.30	0.07
WEST PENN	56,429	9,556,925	10	2018	716367	13.34	169.36	0.08
WEST PENN	41,243	4,839,284	11	2018	716367	6.76	117.34	0.06
WEST PENN	27,697	3,643,981	12	2018	716367	5.09	131.57	0.04
WEST PENN	58,333	11,419,824	1	2019	717331	15.92	195.77	0.08
WEST PENN	64,661	9,932,718	2	2019	717331	13.85	153.61	0.09
WEST PENN	43,557	5,203,297	3	2019	717331	7.25	119.46	0.06
WEST PENN	57,421	7,005,588	4	2019	717331	9.77	122.00	0.08
WEST PENN	92,777	15,743,200	5	2019	717331	21.95	169.69	0.13
WEST PENN	110,835	18,127,257	6	2019	717331	25.27	163.55	0.15
WEST PENN	95,450	15,638,426	7	2019	717331	21.80	163.84	0.13
WEST PENN	71,949	10,716,013	8	2019	717331	14.94	148.94	0.10
WEST PENN	61,116	9,170,957	9	2019	717331	12.78	150.06	0.09
WEST PENN	79,626	17,460,300	10	2019	717331	24.34	219.28	0.11
WEST PENN	68,866	11,583,857	11	2019	717331	16.15	168.21	0.10
WEST PENN	46,747	8,291,102	12	2019	717331	11.56	177.36	0.07
WEST PENN	45,777	6,465,622	1	2020	720861	8.97	141.24	0.06
WEST PENN	27,539	2,887,607	2	2020	720861	4.01	104.86	0.04
WEST PENN	70,736	11,234,141	3	2020	720861	15.58	158.82	0.10

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
WEST PENN	120,870	30,572,727	4	2020	720861	42.41	252.94	0.17
WEST PENN	51,263	6,540,917	5	2020	720861	9.07	127.60	0.07
WEST PENN	90,481	17,554,188	6	2020	720861	24.35	194.01	0.13
WEST PENN	89,333	18,188,566	7	2020	720861	25.23	203.60	0.12
WEST PENN	92,385	29,906,540	8	2020	720861	41.49	323.72	0.13
WEST PENN	36,778	5,712,020	9	2020	720861	7.92	155.31	0.05
WEST PENN	47,175	6,949,769	10	2020	720861	9.64	147.32	0.07
WEST PENN	97,176	32,219,964	11	2020	720861	44.70	331.56	0.13
WEST PENN	37,435	5,646,186	12	2020	720861	7.83	150.83	0.05
WEST PENN	32,974	4,054,894	1	2021	722422	5.61	122.97	0.05
WEST PENN	25,322	3,376,155	2	2021	722422	4.67	133.33	0.04
WEST PENN	73,960	12,103,433	3	2021	722422	16.75	163.65	0.10
WEST PENN	51,429	5,826,935	4	2021	722422	8.07	113.30	0.07
WEST PENN	56,874	10,847,812	5	2021	722422	15.02	190.73	0.08
WEST PENN	155,108	29,188,878	6	2021	722422	40.40	188.18	0.21
WEST PENN	138,462	28,156,065	7	2021	722422	38.97	203.35	0.19
WEST PENN	168,196	44,123,201	8	2021	722422	61.08	262.33	0.23
WEST PENN	66,531	10,882,966	9	2021	722422	15.06	163.58	0.09
WEST PENN	39,512	5,086,441	10	2021	722422	7.04	128.73	0.05
WEST PENN	21,653	2,528,509	11	2021	722422	3.50	116.77	0.03
WEST PENN	80,619	18,308,113	12	2021	722422	25.34	227.09	0.11
WEST PENN	35,229	5,626,559	1	2022	725417	7.76	159.71	0.05
WEST PENN	91,133	73,011,934	2	2022	725417	100.65	801.16	0.13
WEST PENN	83,679	14,797,654	3	2022	725417	20.40	176.84	0.12
WEST PENN	58,332	7,026,909	4	2022	725417	9.69	120.46	0.08
WEST PENN	131,175	34,108,297	5	2022	725417	47.02	260.02	0.18
WEST PENN	141,552	37,512,278	6	2022	725417	51.71	265.01	0.20
WEST PENN	120,050	32,966,802	7	2022	725417	45.45	274.61	0.17
WEST PENN	63,257	10,682,056	8	2022	725417	14.73	168.87	0.09
WEST PENN	53,169	7,266,728	9	2022	725417	10.02	136.67	0.07
WEST PENN	28,616	3,558,930	10	2022	725417	4.91	124.37	0.04
WEST PENN	59,512	12,798,809	11	2022	725417	17.64	215.06	0.08
WEST PENN	91,862	24,954,639	12	2022	725417	34.40	271.65	0.13
WEST PENN	53,898	9,069,701	1	2023	727499	12.47	168.28	0.07
WEST PENN	37,274	4,633,978	2	2023	727499	6.37	124.32	0.05
WEST PENN	137,186	74,908,033	3	2023	727499	102.97	546.03	0.19
WEST PENN	38,056	5,738,369	4	2023	727499	7.89	150.79	0.05
WEST PENN	33,145	4,670,973	5	2023	727499	6.42	140.93	0.05
WEST PENN	84,389	12,087,846	6	2023	727499	16.62	143.24	0.12
WEST PENN	128,261	31,859,622	7	2023	727499	43.79	248.40	0.18
WEST PENN	119,015	43,728,325	8	2023	727499	60.11	367.42	0.16
WEST PENN	45,203	6,304,623	9	2023	727499	8.67	139.47	0.06

Company	CI	CMI	Month	Year	Customers Served	SAIDI	CAIDI	SAIFI
WEST PENN	47,936	6,821,435	10	2023	727499	9.38	142.30	0.07
WEST PENN	27,112	3,450,959	11	2023	727499	4.74	127.29	0.04
WEST PENN	27,921	4,180,772	12	2023	727499	5.75	149.74	0.04
WEST PENN	125,660	31,335,647	1	2024	728351	43.02	249.37	0.17
WEST PENN	46,304	7,115,400	2	2024	728351	9.77	153.67	0.06
WEST PENN	51,545	5,499,878	3	2024	728351	7.55	106.70	0.07

Exhibit BA-5

% Answered within 30 sec by Live Agent'

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	83%	82%	84%	92%	92%	81%	69%	55%	50%	83%	55%	66%	74%
2021	58%	71%	65%	75%	69%	72%	58%	48%	50%	43%	48%	62%	60%
2022	52%	50%	53%	56%	55%	51%	48%	51%	54%	56%	55%	79%	55%
2023	67%	55%	49%	46%	46%	43%	44%	45%	49%	52%	68%	85%	53%
2024	80%	84%	81%										82%

FE PA does not track data that would provide an accurate number of strictly non residential calls. Non Residential customers may be handled through multiple queues or self serve options in the IVR which would be combined with residential customers.

FE PA does not track performance by call center as calls are handled virtually between all locations.

Abandon Rate *

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	0.9%	1.1%	1.3%	1.1%	0.4%	1.1%	1.6%	3.7%	6.5%	1.4%	6.2%	3.0%	2.4%
2021	6.3%	1.6%	2.4%	1.9%	2.5%	2.1%	3.3%	6.7%	6.7%	8.9%	11.8%	2.4%	4.9%
2022	3.8%	6.2%	5.8%	7.4%	6.6%	9.3%	13.3%	12.6%	5.9%	3.2%	4.5%	1.8%	7.0%
2023	3.2%	3.6%	5.2%	10.9%	6.5%	5.4%	6.8%	7.8%	7.8%	7.0%	5.7%	2.1%	6.3%
2024	5.0%	3.7%	5.8%										4.9%

FE PA does not track data that would provide an accurate number of strictly non residential calls. Non Residential customers may be handled through multiple queues or self serve options in the IVR which would be combined with residential customers.

FE PA does not track performance by call center as calls are handled virtually between all locations.

* Live agent and IVR

Average Speed of Answer *

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	18	22	17	6	7	17	35	58	85	21	82	48	35
2021	96	29	41	33	44	34	55	115	108	160	189	43	80
2022	73	97	104	137	121	159	215	218	114	70	83	22	121
2023	57	69	89	190	142	119	134	151	148	136	86	26	116
2024	59	66	95										73

FE PA does not track data that would provide an accurate number of strictly non residential calls. Non Residential customers may be handled through multiple queues or self serve options in the IVR which would be combined with residential customers.

FE PA does not track performance by call center as calls are handled virtually between all locations.

* Live agent and IVR

Busy Out Rate	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020*	0.8%	0.9%	1.0%	0.8%	0.7%	0.8%	0.9%	6.6%	0.6%	0.6%	0.5%	0.6%	1.2%
2021	0.8%	0.5%	0.6%	0.7%	0.6%	0.6%	0.7%	0.7%	0.8%	0.7%	0.7%	0.7%	0.7%
2022	0.7%	0.7%	0.7%	0.8%	0.8%	0.7%	0.8%	0.7%	1.1%	0.8%	0.8%	0.8%	0.8%
2023**	0.8%	0.8%	0.9%	5.7%	1.1%	0.9%	0.9%	0.8%	0.8%	0.8%			1.4%
2024**													

FE PA does not track residential vs non-residential for busy outs.

FE PA does not track performance by call center as calls are handled virtually between all locations.

*Raw data to show the calculation for 2020 Busy out rate is no longer available, however these are the results submitted to the commission for 2020.

**In November 2023 the company moved to a new system, NICE CXone. The new system reports on port capacity which has not been exceeded to date.

Year	Month	Calls Handled	Calls answered in 30
2020	Jan	145455	120227
2020	Feb	137976	112804
2020	Mar	157723	131966
2020	Apr	154518	142348
2020	May	115885	106796
2020	Jun	145561	118401
2020	Jul	140929	97198
2020	Aug	152275	83464
2020	Sep	138593	69054
2020	Oct	142950	118580
2020	Nov	138823	76356
2020	Dec	133666	88747
2021	Jan	140331	81200
2021	Feb	114724	81262
2021	Mar	152475	98641
2021	Apr	160144	120627
2021	May	154207	106357
2021	Jun	170320	122928
2021	Jul	172296	99501
2021	Aug	173196	82748
2021	Sep	167257	83936
2021	Oct	150948	64928
2021	Nov	133710	63637
2021	Dec	125150	77295
2022	Jan	115207	59810
2022	Feb	123037	62058
2022	Mar	150020	78978
2022	Apr	170881	96420
2022	May	169918	93213
2022	Jun	162631	82386
2022	Jul	147474	70863
2022	Aug	171935	87072
2022	Sep	161248	86559

2022	Oct	158254	89268
2022	Nov	138420	76197
2022	Dec	127014	100757
2023	Jan	127247	85887
2023	Feb	120285	66638
2023	Mar	165432	80288
2023	Apr	172023	78316
2023	May	160118	73843
2023	Jun	158786	67637
2023	Jul	167294	74413
2023	Aug	181996	81639
2023	Sep	155970	76698
2023	Oct	167276	86706
2023	Nov	137710	94330
2023	Dec	107876	91944
2024	Jan	132827	106877
2024	Feb	130382	109157
2024	Mar	149365	120487

Year	Month	rec	handled	abn	ans time
2020	Jan	347936	344880	3056	6146540
2020	Feb	329666	325951	3715	7136854
2020	Mar	362724	358098	4626	6057241
2020	Apr	403502	398908	4594	2401536
2020	May	301523	300375	1148	2191652
2020	Jun	383121	378754	4367	6314962
2020	Jul	371352	365263	6089	12684278
2020	Aug	433282	417431	15851	24142913
2020	Sep	340384	318418	21966	26988051
2020	Oct	332796	328113	4683	6794286
2020	Nov	404152	378991	25161	30949818
2020	Dec	331281	321315	9966	15355468
2021	Jan	374431	350785	23646	33594508
2021	Feb	289450	284846	4604	8389353
2021	Mar	390891	381436	9455	15505512
2021	Apr	329680	323517	6163	10709947
2021	May	360255	351260	8995	15607776
2021	Jun	420216	411333	8883	14000535
2021	Jul	466362	450923	15439	25005603
2021	Aug	466132	434855	31277	49934678
2021	Sep	435658	406295	29363	43982921
2021	Oct	406379	370029	36350	59309721
2021	Nov	388679	343000	45679	64920471
2021	Dec	359402	350821	8581	15094582
2022	Jan	332746	320075	12671	23441336
2022	Feb	400900	375868	25032	36318097
2022	Mar	419624	395381	24243	41066295
2022	Apr	415150	384320	30830	52742739
2022	May	437082	408164	28918	49489410
2022	Jun	446492	405048	41444	64604931
2022	Jul	454529	394049	60480	84552863
2022	Aug	455414	398043	57371	86654055
2022	Sep	387158	364176	22982	41433888
2022	Oct	361561	350004	11557	24663580
2022	Nov	364015	347763	16252	28844906
2022	Dec	329989	324213	5776	6999102
2023	Jan	324714	314366	10348	18008686
2023	Feb	308462	297481	10981	20646979
2023	Mar	468978	444713	24265	39710706
2023	Apr	478944	426916	52028	81239473
2023	May	370395	346410	23985	49329675
2023	Jun	386268	365222	21046	43352235
2023	Jul	437603	407765	29838	54704861
2023	Aug	452177	416746	35431	62851038
2023	Sep	393021	362269	30752	53697810
2023	Oct	379641	352980	26661	47930649

2023	Nov	349633	329714	19919	28233226
2023	Dec	296316	290233	6083	7522195
2024	Jan	402400	382388	20012	22483026
2024	Feb	362073	348703	13370	22944989
2024	Mar	396230	373232	22998	35293238

Year	Month	Calls Received	Calls Handled	Calls Abandoned	Calls answered in 30	answer time
2020	Jan	148328	145455	2873	120227	5773939
2020	Feb	141449	137976	3473	112804	6665980
2020	Mar	162185	157723	4462	131966	5724745
2020	Apr	158938	154518	4420	142348	2217017
2020	May	116926	115885	1041	106796	1890641
2020	Jun	149751	145561	4190	118401	5925092
2020	Jul	146639	140929	5710	97198	11942302
2020	Aug	167480	152275	15205	83464	23186212
2020	Sep	159666	138593	21073	69054	25971685
2020	Oct	147323	142950	4373	118580	6358360
2020	Nov	163470	138823	24647	76356	30297498
2020	Dec	143372	133666	9706	88747	14860904
2021	Jan	163019	140331	22688	81200	31810221
2021	Feb	118867	114724	4143	81262	7331790
2021	Mar	161268	152475	8793	98641	14270268
2021	Apr	165864	160144	5720	120627	9851261
2021	May	162762	154207	8555	106357	14826949
2021	Jun	178586	170320	8266	122928	12972106
2021	Jul	186956	172296	14660	99501	23871176
2021	Aug	203348	173196	30152	82748	48185104
2021	Sep	195754	167257	28497	83936	42502417
2021	Oct	186538	150948	35590	64928	57985175
2021	Nov	178541	133710	44831	63637	63639575
2021	Dec	133174	125150	8024	77295	14093476
2022	Jan	126882	115207	11675	59810	22009700
2022	Feb	147094	123037	24057	62058	34912734
2022	Mar	173100	150020	23080	78978	39315631
2022	Apr	200765	170881	29884	96420	51441689
2022	May	198030	169918	28112	93213	48129691
2022	Jun	202990	162631	40359	82386	63028854
2022	Jul	206809	147474	59335	70863	82857609
2022	Aug	228056	171935	56121	87072	84857259
2022	Sep	183588	161248	22340	86559	40238203

2022	Oct	169365	158254	11111	89268	23611274
2022	Nov	154155	138420	15735	76197	27787863
2022	Dec	132503	127014	5489	100757	6416580
2023	Jan	136922	127247	9675	85887	16601194
2023	Feb	130655	120285	10370	66638	19408895
2023	Mar	189127	165432	23695	80288	38402847
2023	Apr	223375	172023	51352	78316	79922863
2023	May	183619	160118	23501	73843	48175904
2023	Jun	179325	158786	20539	67637	42285600
2023	Jul	196317	167294	29023	74413	53353850
2023	Aug	216578	181996	34582	81639	61457495
2023	Sep	185979	155970	30009	76698	52340949
2023	Oct	193190	167276	25914	86706	46611019.33
2023	Nov	157322	137710	19612	94330	27662467.99
2023	Dec	113788	107876	5912	91944	7007706.07
2024	Jan	152368	132827	19541	106877	21443168.32
2024	Feb	143507	130382	13125	109157	22264869.95
2024	Mar	172162	149365	22797	120487	34738494.37

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
2020	% Busy	0.8%	0.9%	1.0%	0.8%	0.7%	0.8%	0.9%	6.6%	0.6%	0.6%	0.5%	0.6%	1.2%
2021	Calls Receive	529142	394694	511508	466519	474807	550737	625672	636847	605924	555560	548410	472246	
	Busy outs	3989	1914	2872	3079	2771	3502	4580	4149	4705	3759	4089	3536	
	% Busy	0.8%	0.5%	0.6%	0.7%	0.6%	0.6%	0.7%	0.7%	0.8%	0.7%	0.7%	0.7%	0.7%
2022	Calls Receive	20405	536532	565740	781556	646362	660931	671406	695687	586201	519727	534148	516301	
	Busy outs	133	3512	3922	5864	4896	4938	5578	5169	6416	4327	4396	4226	
	% Busy	0.7%	0.7%	0.7%	0.8%	0.8%	0.7%	0.8%	0.7%	1.1%	0.8%	0.8%	0.8%	0.8%
2023	Calls Receive	242933	294871	456591	574999	384692	393182	443847	485520	417344	385154			
	Busy outs	1899	2468	3914	32961	4127	3635	3864	4018	3402	3171			
	% Busy	0.8%	0.8%	0.9%	5.7%	1.1%	0.9%	0.9%	0.8%	0.8%	0.8%			1.4%

Raw data to show the calculation for 2020 Busy out rate is no longer available, however these are the results submitted to the commission for 2020.

Exhibit BA-6

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set V, No. 63

"Provide documents that reflect a root cause analysis of customer disputes submitted to FE PA and its regional units since January 1, 2020."

RESPONSE:

Assuming this request is not referring to customer disputes contained within BCS complaints, FE PA does not have a formal process to determine root cause. However, if an upward trend is identified, that process is reviewed to identify any gaps or failures to rectify the issue from continuing.

The process outlined below is FE PA's dispute handling process:

1. The dispute report is run daily.
2. Each dispute type is analyzed by looking at associated correspondence, contact notes, meter reads, usage or meter overviews depending on the work type.
3. Steps are taken to resolve the dispute:
    a. Meter Services notifications are checked for completion;
    b. Billing/Accounting team checks for corrections/rebilling if needed to satisfy the dispute;
    c. Meter Test results are reviewed;
    d. Compliance is contacted with questions if needed;
    e. No Dispute is completed (closed) until the customer's inquiry has been satisfied or it has been deemed that all necessary steps have been followed to satisfy it.
4. If an error is found, coaching is sent to the appropriate department supervisor to communicate/coach the employee.

Below is a snapshot of dispute tracking:

Customer Dispute Issue	2023				2023 Total	2024*				2024 Total
	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	
Billing Disputes	1431	243	1166	1074	3914	1470				1470
Competition - supplier	98	21	83	131	333	81				81
Payment Issues	182	51	202	188	623	199				199
Other	298	33	165	131	627	227				227
Total Disputes	2009	348	1616	1524	5497	1977	0	0	0	1977
Total Calls	512058	606323	620412	519783	2258576	513381				513381
Dispute Ratio	0.004	0.001	0.003	0.003	0.002	0.004				0.004

*2024 data is as of March month end

Exhibit BA-7

Met-Ed
A FirstEnergy Company

Bill Based On: Actual Meter Reading, Equal Payment Plan, eBill

May 20, 2024
Account Number: [redacted]

Billing Period: Apr 17 to May 15, 2024 for 29 days
Bill For: [redacted]

Amount Due: $117.00

Due Date: June 10, 2024

To report an emergency or an outage, call 24 hours a day 1-888-544-4877.
Bill issued by: Met-Ed, PO Box 16001, Reading PA 19612-6001
To enroll in eBill or pay your bill online, scan the QR code on the right of this bill from your mobile device or go to www.firstenergycorp.com.
For Customer Service, call 1-800-545-7741. For Payment Options, call 1-800-962-4848.

Shopping Information

Customer Number [redacted]
Rate Category Standard Residential ME-RESD

Contact your supplier if you do not know your contract expiration date.

Messages

To avoid a 1.50% Late Payment Charge being added to your bill, please pay the **Amount Due** by the Due Date.

Your current **PRICE TO COMPARE** for generation and transmission from Met-Ed is listed below. For you to save, a supplier's price must be lower.
Standard Residential - [redacted] - 11.31 cents per KWH

Your next meter reading is scheduled to occur on or about Jun 17, 2024.

Your bill includes $1.44 in PA taxes, of which $1.27 is PA gross receipts tax.

Generation prices and charges are set by the electric generation supplier you have chosen. The Public Utilities Commission regulates distribution prices and services. The Federal Energy Regulatory Commission regulates transmission prices and services.

With the Pennsylvania Public Utility Commission's approval, we are notifying all customers of a change in the procedure for disconnection for nonpayment. The company representative will now attempt to complete a remote disconnection and may no longer need access to the meter. All other regulatory noticing leading up to disconnect will continue with no change, and a post-termination notice will be left at the service address.

Clothes washers that are energy efficient use about 20% less energy and about 30% less water. Visit energysavepa.com/rebates or call 855-897-6394 to learn more!

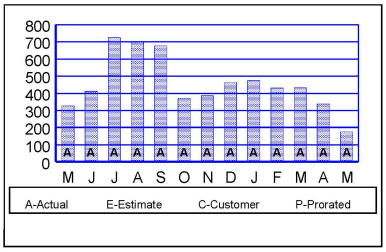
For your safety, if your service has been disconnected, do not attempt to reconnect it. While this is illegal and could result in prosecution, removing a meter base or touching any of the wires can also cause death or serious injury through arcs of electricity, explosions or fire. Meters are only to be accessed by authorized utility personnel.

An important message to dog owners - to ensure that our meter readers' visits to your home are safe and productive, please keep your dog secured in an area away from the path to your meter.

All of our employees wear photo ID badges. Always ask for an employee's ID before letting anyone in your home. If you are still not sure, please call the company.

Additional messages, if any, can be found on back.

Usage History



Comparisons	Last Year	This Year
Average Daily Use (KWH)	11	6
Average Daily Temperature	55	57
Days in Billing Period	29	29
Last 12 Months Use (KWH)		5,584
Average Monthly Use (KWH)		465

Account Summary

	Amount Due
Previous Balance	117.00
Payments/Adjustments	-117.00
Balance at Billing on May 20, 2024	**0.00**
Met-Ed - Payment Plan Amount	55.00
[redacted] - Payment Plan Amount	62.00
Total Current Charges	**117.00**
Total owed by Jun 10, 2024	**$117.00**

As a Checkless customer - Total charges of $117.00 will be deducted from your account on Jun 10, 2024

Your actual account balance is $150.22.

Usage Information for Meter Number [redacted]

May 15, 2024 KWH Reading (Actual)	38,832
Apr 17, 2024 KWH Reading (Actual)	38,657
KWH used	175

Charges From Met-Ed

When contacting an Electric Generation Supplier, please provide the following.
Customer Number: [redacted]
Rate: Standard Residential ME-RESD

Customer Charge			10.25
Distribution System Improvement Charge			0.93
Distribution Charge	175 KWH	x 0.059429	10.40
Solar Requirements Charge	175 KWH	x 0.000060	0.01
Default Service Support Charge	175 KWH	x 0.004050	0.71
TCJA Voluntary Surcharge			-0.77
Current Consumption Bill Charges			**21.53**

Charges From [redacted]

[redacted]
Account Number: [redacted] Rate: GEN-F1199

Billing Period: Apr 17, 2024 to May 15, 2024

Generation/Transmission	175 KWH	x 0.119900	20.98
Total [redacted] Charges			**20.98**

Detail Payment and Adjustment Information

05/09/24 Payment -117.00

Account Balances by Company

	Previous Balance	Payments/ Adjustments	Current Charges	Amount Due
Met-Ed	55.00	-55.00	55.00	55.00
[redacted]	62.00	-62.00	62.00	62.00
Total	**117.00**	**-117.00**	**117.00**	**117.00**

Equal Payment Plan (EPP) Summary

Actual Charges Billed During 11 EPP Months	969.22
EPP Amount During 11 EPP Months	936.00
Difference Between Actual Charges and EPP Amount	**33.22**

Met-Ed
A FirstEnergy Company
PO Box 16001
Reading, PA 19612-6001

Account Number: [redacted]

[redacted]

Checkless Customer $117.00 will be deducted from your account on June 10, 2024 - DO NOT PAY

MET-ED
PO BOX 3687
AKRON OH 44309-3687

02[redacted]0000000000000000020000117000000117006

Messages (Continued)

Explanation of Terms

Customer Charge - Monthly charge that offsets costs for billing, meter reading, equipment, service line maintenance, and assessing and deploying Smart Meter Technology.

Default Service Support Charge - Charge to recover new and deferred costs associated with serving customers in a competitive market.

Distribution Charge - Charge for Universal Service Program and Energy Efficiency Program costs, and for the use of local wires, transformers, substations and other equipment used to deliver electricity to consumers from high-voltage transmission lines.

Distribution System Improvement Charge - This charge recovers costs incurred to repair, improve or replace infrastructure that the Company uses to deliver electricity to its customers.

Estimated Reading - On the months we do not read a meter, we calculate the bill based on past electrical usage.

KWH (Kilowatt Hour) - A unit of measure for electricity usage equal to 1,000 watts used for one hour.

Late Payment Charge - A charge added to the bill on balances owed after the Due Date.

Price to Compare (PTC) - Price per kilowatt hour to be used when comparing to the price of a generation supplier.

Price to Compare Default Service - Charges for costs to provide energy, capacity, compliance with Alternative Energy Portfolio Standards, transmission and ancillary services for customers receiving Default Service.

Prorated Reading - Reading calculated by multiplying the daily average electric usage between two recent readings by the number of days in the billing period.

Service Charge - Charge for opening an account.

Solar Requirements Charge - Charge to acquire Solar Photovoltaic Alternative Energy Credits to comply with the Alternative Energy Portfolio Standards Act.

State Tax Surcharge - An adjustment to the state taxes recovered through Met-Ed's basic charges.

TCJA Voluntary Surcharge - This surcharge adjusts customer rates for the reduction to corporate federal income tax under the Tax Cuts and Jobs Act.

General Information

If you have billing questions or complaints about your Met Ed account, please contact us before the due date.

Call Customer Service at 1-800-545-7741 Monday - Friday, from 8 a.m. - 6 p.m. Our representatives can answer your questions, describe the charges on your bill, explain how to make sure your bill is correct, and provide information on rate schedules and energy efficiency.

Call Payment Options at 1-800-962-4848 Monday - Friday, from 8 a.m. - 6 p.m.

Visit our website at: www.firstenergycorp.com

Write to us at: Met-Ed, 76 S. Main St., A-RPC, Akron, OH 44308-1890

Customers with hearing or speech impairments can contact the Telecommunications Relay Service (TRS) at 711.

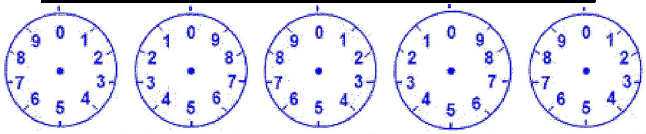
Information about Energy Harbor LLC: 168 E Market St, Akron, OH 44308, 1-888-254-6359

For your protection, all of our employees wear Photo I.D. badges.

Electronic Check Conversion - Your check authorizes us either to make a one-time electronic funds transfer (EFT) from your account or process as a check. If you have questions about this program, call 1-866-283-8081.

To provide a customer meter reading, use the dials provided and enter the reading on-line at www.firstenergycorp.com/aboutyourbill or by calling 1-800-545-7741. Say "Meter Reading" when asked "Which of these can I help you with today?" Have the date you took the reading available. If this is to avoid a scheduled estimate, please check the front of the bill for entry dates.

Provide reading by telephone or on-line only: DO NOT MAIL



Draw hands on the dials exactly as they appear on your electric meter. When reading your meter, if the hand falls between two numbers, always report the lower number.

If you have a **DIGITAL METER** write the numbers here: ☐☐☐☐☐☐

Exhibit BA-8

Met-Ed
A FirstEnergy Company

Bill Based On: Actual Meter Reading

June 04, 2024
Account Number: [redacted]

Billing Period: Apr 30 to May 29, 2024 for 30 days
Bill For: [redacted]

Amount Due: $280.48

Due Date: June 24, 2024

To report an emergency or an outage, call 24 hours a day 1-888-544-4877.
Bill issued by: Met-Ed, PO Box 16001, Reading PA 19612-6001
To enroll in eBill or pay your bill online, scan the QR code on the right of this bill from your mobile device or go to www.firstenergycorp.com.
For Customer Service, call 1-800-545-7741. For Payment Options, call 1-800-962-4848.

Shopping Information

Customer Number [redacted]
Rate Category Standard Residential ME-RESD

Contact your supplier if you do not know your contract expiration date.

Messages

** REMINDER NOTICE **

When this bill was prepared, your account had an unpaid balance. If you have already made this payment, thank you. If not, please promptly pay the overdue amount. Call us if you have questions or for information on payment arrangements.

To avoid a 1.50% Late Payment Charge being added to your bill, please pay the **Amount Due** by the Due Date.

Your current **PRICE TO COMPARE** for generation and transmission from Met-Ed is listed below. For you to save, a supplier's price must be lower.

Standard Residential - [redacted] - 11.31 cents per KWH

Your next meter reading is scheduled to occur on or about Jun 28, 2024.

Your bill includes $6.24 in PA taxes, of which $5.50 is PA gross receipts tax.

Generation prices and charges are set by the electric generation supplier you have chosen. The Public Utilities Commission regulates distribution prices and services. The Federal Energy Regulatory Commission regulates transmission prices and services.

With the Pennsylvania Public Utility Commission's approval, we are notifying all customers of a change in the procedure for disconnection for nonpayment. The company representative will now attempt to complete a remote disconnection and may no longer need access to the meter. All other regulatory noticing leading up to disconnect will continue with no change, and a post-termination notice will be left at the service address.

Effective June 1, 2024, the Default Service Support charge, which recovers costs associated with serving customers in a competitive electric market, has been adjusted.

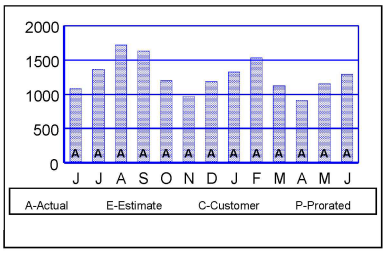
Customers receiving Default Service have a new Price to Compare (PTC), effective June 1, 2024.

Effective June 1, 2024, the Energy Efficiency Charges, which recover costs associated with the utility's programs to reduce annual electric use and peak demand for electricity as mandated by the state, has been adjusted.

Effective June 1, 2024, the Solar Photovoltaic Requirement charge, which recovers the company's cost to acquire Solar Photovoltaic

Additional messages, if any, can be found on back.

Usage History



Comparisons	Last Year	This Year
Average Daily Use (KWH)	33	43
Average Daily Temperature	61	67
Days in Billing Period	33	30
Last 12 Months Use (KWH)		15,399
Average Monthly Use (KWH)		1,283

Account Summary

	Amount Due
Previous Balance	250.70
Payments/Adjustments	-250.00
Balance at Billing on Jun 04, 2024	**0.70**
Met-Ed - Consumption	93.14
[redacted]	186.63
Late Payment Charges	0.01
Total Current Charges	**279.78**
Amount Due by Jun 24, 2024	**$280.48**

Usage Information for Meter Number [redacted]

May 29, 2024 KWH Reading (Actual)	83,981
Apr 30, 2024 KWH Reading (Actual)	82,693
KWH used	1,288

Charges From Met-Ed

When contacting an Electric Generation Supplier, please provide the following.
Customer Number: [redacted]
Rate: Standard Residential ME-RESD

Customer Charge			10.25
Distribution System Improvement Charge			3.94
Distribution Charge	1,288 KWH	x 0.059387	76.49
Solar Requirements Charge	1,288 KWH	x 0.000060	0.08
Default Service Support Charge	1,288 KWH	x 0.004050	5.22
TCJA Voluntary Surcharge			-2.86
State Tax Surcharge			0.02
Current Consumption Bill Charges			**93.14**
Late payment charge			**0.01**
Total Charges			**$ 93.15**

Billing Information for [redacted]

[redacted]
Account Number: [redacted] Rate: BILL-READY

Billing Period: Apr 30, 2024 to May 29, 2024

Energy Charge-1288.0000kwh@0.0150 Per Kwh	19.32
Energy Charge-1288.0000kwh@0.1299 Per Kwh	167.31
Total Just Energy Current Charges	**186.63**

Detail Payment and Adjustment Information

05/22/24	Payment	-250.00

Account Balances by Company

	Previous Balance	Payments/ Adjustments	Current Charges	Amount Due
Met-Ed	84.20	-84.20	93.15	93.15
[redacted]	166.50	-165.80	186.63	187.33
Total	**250.70**	**-250.00**	**279.78**	**280.48**

Return this part with a check or money order payable to Met-Ed

Met-Ed
A FirstEnergy Company

PO Box 16001
Reading, PA 19612-6001

[redacted]

Account Number: [redacted]

Amount Paid	
Amount Due	**$280.48**
Due Date	**Jun 24, 2024**

MET-ED
PO BOX 3687
AKRON OH 44309-3687

02[redacted]0000000000000000000000279780000280486

Messages (Continued)

Alternative Energy Credits in compliance with the Alternative Energy Portfolio Standards Act has been adjusted.

Explanation of Terms

Customer Charge - Monthly charge that offsets costs for billing, meter reading, equipment, service line maintenance, and assessing and deploying Smart Meter Technology.

Default Service Support Charge - Charge to recover new and deferred costs associated with serving customers in a competitive market.

Distribution Charge - Charge for Universal Service Program and Energy Efficiency Program costs, and for the use of local wires, transformers, substations and other equipment used to deliver electricity to consumers from high-voltage transmission lines.

Distribution System Improvement Charge - This charge recovers costs incurred to repair, improve or replace infrastructure that the Company uses to deliver electricity to its customers.

Estimated Reading - On the months we do not read a meter, we calculate the bill based on past electrical usage.

KWH (Kilowatt Hour) - A unit of measure for electricity usage equal to 1,000 watts used for one hour.

Late Payment Charge - A charge added to the bill on balances owed after the Due Date.

Price to Compare (PTC) - Price per kilowatt hour to be used when comparing to the price of a generation supplier.

Price to Compare Default Service - Charges for costs to provide energy, capacity, compliance with Alternative Energy Portfolio Standards, transmission and ancillary services for customers receiving Default Service.

Prorated Reading - Reading calculated by multiplying the daily average electric usage between two recent readings by the number of days in the billing period.

Service Charge - Charge for opening an account.

Solar Requirements Charge - Charge to acquire Solar Photovoltaic Alternative Energy Credits to comply with the Alternative Energy Portfolio Standards Act.

State Tax Surcharge - An adjustment to the state taxes recovered through Met-Ed's basic charges.

TCJA Voluntary Surcharge - This surcharge adjusts customer rates for the reduction to corporate federal income tax under the Tax Cuts and Jobs Act.

General Information

If you have billing questions or complaints about your Met Ed account, please contact us before the due date.

Call Customer Service at 1-800-545-7741 Monday - Friday, from 8 a.m. - 6 p.m. Our representatives can answer your questions, describe the charges on your bill, explain how to make sure your bill is correct, and provide information on rate schedules and energy efficiency.

Call Payment Options at 1-800-962-4848 Monday - Friday, from 8 a.m. - 6 p.m.

Visit our website at: www.firstenergycorp.com

Write to us at: Met-Ed, 76 S. Main St., A-RPC, Akron, OH 44308-1890

Customers with hearing or speech impairments can contact the Telecommunications Relay Service (TRS) at 711.

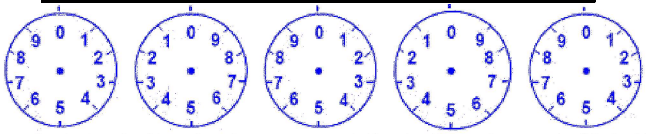
Information about Just Energy: 4 Executive Blvd., Ste. 301, Suffern, NY 10901, 1-866-587-8674

For your protection, all of our employees wear Photo I.D. badges.

Electronic Check Conversion - Your check authorizes us either to make a one-time electronic funds transfer (EFT) from your account or process as a check. If you have questions about this program, call 1-866-283-8081.

To provide a customer meter reading, use the dials provided and enter the reading on-line at www.firstenergycorp.com/aboutyourbill or by calling 1-800-545-7741. Say "Meter Reading" when asked "Which of these can I help you with today?" Have the date you took the reading available. If this is to avoid a scheduled estimate, please check the front of the bill for entry dates.

Provide reading by telephone or on-line only: DO NOT MAIL



Draw hands on the dials exactly as they appear on your electric meter. When reading your meter, if the hand falls between two numbers, always report the lower number.

If you have a **DIGITAL METER** write the numbers here: ☐☐☐☐☐☐

Exhibit BA-9

FIRSTENERGY PENNSYLVANIA ELECTRIC COMPANY
2024 BASE RATE CASE FILING
DOCKET NO. R-2024-3047068

OFFICE OF CONSUMER ADVOCATE Set V, No. 67

"Does FE PA include non-basic charges on its bills? If so, identify the products and services each FE PA regional unit includes on residential customer bills and provide a copy of a customer bill who has subscribed to one or more of such services."

RESPONSE:

Yes, FE PA includes non-basic charges on its bills.

The list of products and services available to FE PA customers is as follows:

FE Repair Plans (administered by HomeServe): Exterior Water Service Line Protection Plan, Exterior Water Service Line Protection Plan, Exterior Electrical Line Protection Plan, Cooling System Repair Plan, Cooling System Repair Plan, Interior Electrical Line Protection Plan, Water Heater Repair.

FE Surge Assist Plan (administered by FE Products): $5.49 per month for up to $2,000 per year in protection, $6.99 per month for up to $4,000 per year in protection, $8.99 per month for up to $6,000 per year in protection, $10.99 per month for up to $8,000 per year in protection, $12.99 per month for up to $10,000 per year in protection.

FE Quote-Bid (administer by FE Products): Electrical Services, Outdoor & Security Lighting, EV Charger Installation.

See FE PA Response to OCA Interrogatory Set V, No. 67, Attachment A. Customer account information has been redacted.

Met-Ed
An FirstEnergy Company

Bill Based On Actual Meter Reading, eBill

Page 1 of 2
M71

April 15, 2024
Account Number [redacted]

Amount Due: $196.78

Due Date May 06, 2024

Billing Period: Mar 13 to Apr 10, 2024 for 29 days
Bill For: [redacted]

To report an emergency or an outage, call 24 hours a day 1-888-544-4877.
Bill issued by: Met-Ed, PO Box 16001, Reading PA 19612-6001
To enroll in eBill or pay your bill online, scan the QR code on the right of this bill from your mobile device or go to www.firstenergycorp.com.
For Customer Service, call 1-800-545-7741. For Payment Options, call 1-800-982-4848.

Shopping Information

Customer Number [redacted]
Rate Category
Standard Residential ME-RESD

Contact your supplier if you do not know your contract expiration date.

Messages

To avoid a 1.50% Late Payment Charge being added to your bill, please pay the Amount Due by the Due Date.

Your current PRICE TO COMPARE for generation and transmission from Met-Ed is listed below. For you to save, a supplier's price must be lower.

Standard Residential - 0006502350 - 11.31 cents per KWH

Your next meter reading is scheduled to occur on or about May 13, 2024.

Your bill includes $4.88 in PA taxes, of which $4.30 is PA gross receipts tax.

Generation prices and charges are set by the electric generation supplier you have chosen. The Public Utilities Commission regulates distribution prices and services. The Federal Energy Regulatory Commission regulates transmission prices and services.

With the Pennsylvania Public Utility Commission's approval, we are notifying all customers of a change in the procedure for disconnection for nonpayment. The company representative will now attempt to complete a remote disconnection and may no longer need access to the meter. All other regulatory noticing leading up to disconnect will continue with no change, and a post-termination notice will be left at the service address.

The Distribution System Improvement Charge was adjusted on April 1, 2024. This charge recovers costs incurred to repair, improve or replace infrastructure the company uses to deliver electricity to its customers.

Spring's warm weather often produces thunderstorms, which can cause power outages. If your power goes out, call 1-888-LIGHTSS (1-888-544-4877). For your safety, please treat all downed wires as live and dangerous. For more information on preparing for outages, visit www.firstenergycorp.com/storminfo.

Additional messages, if any, can be found on back.

Account Summary

	Amount Due
Previous Balance	212.86
Payments/Adjustments	-212.86
Balance at Billing on Apr 15, 2024	**0.00**
Met-Ed - Consumption	72.82
[redacted] Misc. Charges	21.75
	102.21
Total Current Charges	**196.78**
Amount Due by May 06, 2024	**$196.78**

Usage Information for Meter Number 5001425284

Apr 10, 2024 KWH Reading (Actual)	73,643
Mar 13, 2024 KWH Reading (Actual)	72,671
KWH used	972

Charges From Met-Ed

When contacting an Electric Generation Supplier, please provide the following:
Customer Number: [redacted]
Rate: Standard Residential ME-RESD

Customer Charge			10.25
Distribution System Improvement Charge			3.09
Distribution Charge	972 KWH	x 0.059393	57.73
Solar Requirements Charge	972 KWH	x 0.000060	0.06
Default Service Support Charge	972 KWH	x 0.004050	3.94
TCJA Voluntary Surcharge			-2.26
State Tax Surcharge			0.01
Current Consumption Bill Charges			**72.82**
Security Deposit Interest			-2.08
HomeServe USA Plan (1-888-656-3600)			17.99
Surge Assist 5000 Max (800-505-7268)			8.99
Surge Assist 5000 Max (800-505-7263)-Discount			-4.50
Sales Tax			1.33
Total Charges			**$94.57**

Charges from [redacted]

Account Number: [redacted] Rate: OR-MERQ423

Billing Period: Mar 13, 2024 to Apr 10, 2024

Generation/Transmission	972 KWH	x 0.105150	102.21
Total [redacted] Charges			**102.21**

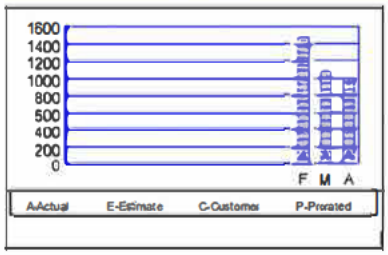
Detail Payment and Adjustment Information

04/04/24	Payment	-212.86

Account Balances by Company

	Previous Balance	Payments/ Adjustments	Current Charges	Amount Due
Met-Ed	98.77	-98.77	94.57	94.57
[redacted]	114.09	-114.09	102.21	102.21
Total	212.86	-212.86	196.78	196.78

Usage History



	This Year
Average Daily Use (KWH)	34
Average Daily Temperature	46
Days in Billing Period	29
Last 3 Months Use (KWH)	3,545
Average Monthly Use (KWH)	1,182

Return this part with a check or money order payable to Met-Ed

Met-Ed
PO Box 16001
Reading, PA 19612-6001

[redacted]

Account Number: [redacted]

Amount Paid	
Amount Due	$196.78
Due Date	May 06, 2024

MET ED
PO BOX 3687
AKRON OH 44309-3687

021001573494220000000000000000000000196780000196781

Messages (Continued)

Explanation of Terms

Customer Charge Monthly charge that offsets costs for billing, meter reading, equipment, service line maintenance, and assessing and deploying Smart Meter Technology.

Default Service Support Charge Charge to recover new and deferred costs associated with serving customers in a competitive market.

Distribution Charge Charge for Universal Service Program and Energy Efficiency Program costs, and for the use of local wires, transformers, substations and other equipment used to deliver electricty to consumers from high-voltage transmission lines.

Distribution System Improvement Charge This charge recovers costs incurred to repair, improve or replace infrastructure that the Company uses to deliver electricity to its customers.

Estimated Reading On the months we do not read a meter, we calculate the bill based on past electrical usage.

KWH (Kilowatt Hour) A unit of measure for electricity usage equal to 1,000 watts used for one hour.

Late Payment Charge A charge added to the bill on balances owed after the Due Date.

Price to Compare (PTC) Price per kilowatt hour to be used when comparing to the price of a generation supplier.

Price to Compare Default Service Charges for costs to provide energy, capacity, compliance with Alternative Energy Portfolio Standards, transmission and ancillary services for customers receiving Default Service.

Prorated Reading Reading calculated by multiplying the daily average electric usage between two recent readings by the number of days in the billing period.

Service Charge Charge for opening an account.

Solar Requirements Charge Charge to acquire Solar Photovoltaic Alternative Energy Credits to comply with the Alternative Energy Portfo io Standards Act.

State Tax Surcharge An adjustment to the state taxes recovered through Met-Ed's basic charges.

TCJA Voluntary Surcharge This surcharge adjusts customer rates for the reduction to corporate federal income tax under the Tax Cuts and Jobs Act.

General Information

If you have billing questions or complaints about your Met Ed account, please contact us before the due date.

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Call Payment Options at 1-800-962-4848 Monday - Friday, from 8 a.m. - 6 p.m.

Visit our website at www.firstenergycorp.com

Write to us at Met-Ed, 76 S. Main St., A-RPC, Akron, OH 44308-1890

Customers with hearing or speech impairments can contact the Telecommunications Relay Service (TRS) at 711.

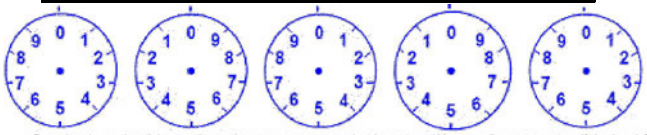
Information about [redacted]

For your protection, all of our employees wear Photo I.D. badges.

Electronic Check Conversion Your check authorizes us either to make a one-time electronic funds transfer (EFT) from your account or process as a check. If you have questions about this program, ca l 1-866-283-8081.

To provide a customer meter reading, use the dials provided and enter the reading on-line at www.firstenergycorp.com/aboutyourbi l or by calling 1-800-545-7741. Say "Meter Reading" when asked "Which of these can I help you with today?" Have the date you took the reading available. If this is to avoid a scheduled estimate, please check the front of the bill for entry dates.

Provide reading by telephone or on-line only DO NOT MAIL



Draw hands on the dials exactly as they appear on your electric meter. When reading your meter, if the hand falls between two numbers, always report the lower number.

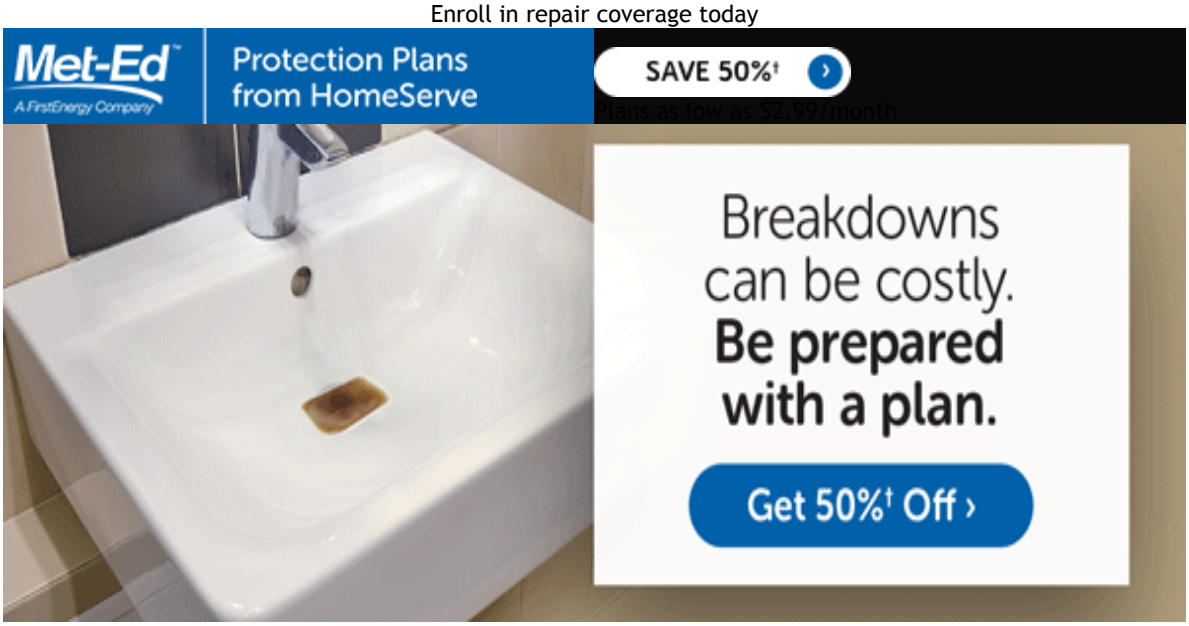
If you have a **DIGITAL METER** write the numbers here ☐☐☐☐☐☐

Exhibit BA-10

EXHIBIT BA-10

From: Met-Ed <noreply_feproducts@firstenergycorp.com>
Date: May 2, 2024 at 2:35:20 PM EDT
To:
Subject: Don't let home repairs surprise you.

Enroll in repair coverage today



Note for Met-Ed Customers

Date: May 2, 2024
To:
Call HomeServe: 1-833-785-1495

Repairs to the plumbing, heating and cooling, and electrical systems on your property may be your responsibility. Breakdowns may be costly and result in unplanned expenses. Low-cost repair coverage may be available at 50% off† for these systems. No property check is required for coverage.

Systems in your home can break down without warning. It is important that you be prepared should it happen to you. That's why Met-Ed has partnered with HomeServe*, an independent company that offers *optional* repair coverage to help homeowners avoid paying for covered repairs.

Get 50%† Off ›

Or call: 1-833-785-1495

This advertisement was sent on behalf of HomeServe USA. Coverage is provided by HomeServe USA.

†Price is 50% off current renewal price, for the first year only.

*HomeServe USA Repair Management Corp. ("HomeServe"), with corporate offices located at 601 Merritt 7, 6th Floor, Norwalk, CT 06851, is an *independent company separate from FirstEnergy Corp.*, its operating companies, subsidiaries and affiliates, including the local electric utility company that provides our electric distribution service (collectively "FirstEnergy"). HomeServe is the contracted party with FirstEnergy and can only act under the express authority of the contract entered into by FirstEnergy and HomeServe. For plans in Pennsylvania, the Pennsylvania PUC regulations permit public utilities to bill customers for charges for other than basic service, which include, among other things, merchandise, appliance repairs, line repairs, and warranty programs and consistent with 52 Pa. Code § 56.13, these charges are displayed as separate line items on FirstEnergy's customers' bills. HomeServe offers this *optional* service plan as an authorized representative of the contract issuer, National Home Repair Warranty, Inc., 59 Maiden Lane, 43rd Floor, New York, NY 10038. **Your choice of whether to purchase in this service plan will not affect the price, availability or terms of service from FirstEnergy. FirstEnergy does not provide any warranty on the services performed and is not responsible for any claims that may arise as a result of the services provided. FirstEnergy and HomeServe entered into an agreement to introduce these plans to FirstEnergy's customers. See eligibility requirements and coverage limitations by clicking above.**

76 South Main Street, Akron, OH 44308

If you wish to stop receiving these messages, unsubscribe

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BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Barbara Alexander, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 6, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 25, 2024

Signature: Barbara Alexander
_____
Barbara Alexander

Address: Barbara Alexander Consulting LLC
44 Beech St.
Hallowell, ME 04347

OCA St. 6SR

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v. Docket No. R-2024-3047068

FirstEnergy Pennsylvania Electric Co.

SURREBUTTAL TESTIMONY OF

Barbara R. Alexander

ON BEHALF OF THE

OFFICE OF CONSUMER ADVOCATE

August 9, 2024

PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is Barbara R. Alexander. I am the sole member manager of Barbara Alexander Consulting LLC. My office is located at 44 Beech St., Hallowell, ME 04347. I appear as a witness for the Pennsylvania Office of Consumer Advocate (OCA).

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A. Yes. I submitted Direct Testimony on behalf of the OCA on June 25, 2024, and Rebuttal Testimony on behalf of the OCA on July 22, 2024.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. I am filing Surrebuttal Testimony in response to FirstEnergy's Rebuttal Testimony filed by Ms. Joanne Savage[1] and Mr. Mark A. Jones.[2]

Q. DO YOU HAVE A PRELIMINARY CONCERN ABOUT FIRSTENERGY'S REBUTTAL TESTIMONY?

A. Yes. FirstEnergy witness Jones repeatedly refers to my testimony (and that of other witnesses) as "comments."[3] This is an incorrect and improper characterization that demeans the content of my testimony. I have submitted testimony as an expert witness. This proceeding is not a legislative or regulatory policy or rulemaking proceeding in which unsworn "comments" are submitted, but rather a formal evidentiary proceeding. My testimony has been submitted with verification as a witness.

Q. BASED ON YOUR REVIEW OF FIRSTENERGY'S REBUTTAL TESTIMONY, DO YOU HAVE ANY CHANGES TO YOUR RECOMMENDATIONS?

A. No. My basic recommendations remain as follows:

[1] FE PA Statement No. 1-R.
[2] FE PA Statement No. 8-R.
[3] See, e.g., FE PA St. No. 8-R, page 2, lines 8-18.

- The Electric Vehicle Pilot should be rejected as presented due to the defects in its design and inclusion of inappropriate subsidies to be paid by consumers;
- FirstEnergy's failure to properly present and indicate compliance with prior settlement commitments should be considered in evaluating the Company's rate of return and rate proposals.
- FirstEnergy should be required to comply with its 2024 performance for its customer call center as a condition of any rate increase. In addition, FirstEnergy should be required to document routine audits of its call centers generally and temporary contractors specifically to document sufficient and realistic training prior to handling Pennsylvania customer calls.
- As I documented in my Direct Testimony,[4] FirstEnergy has not complied with a prior settlement condition in the PA Consolidation Proceeding that explicitly requires regular root cause analysis of customer complaints and BCS findings. This failure should be taken into account in the recommendations for rate of return and earnings in this proceeding.
- FirstEnergy's proposal to include an adjustment to its uncollectible expense to reflect unknown and unadopted changes to Chapter 14 of the Public Utilities Code should be rejected.
- FirstEnergy should calculate the customer's bill under the applicable PTC and provide that bill total as part of the PTC disclosure on its customer bills.
- FirstEnergy's proposal to eliminate payment fees and include reasonable costs to process customer payments in rates should be adopted.

[4] OCA St. No. 6, pages 31-32.

- The Commission should initiate an investigation of FirstEnergy's billing for non-basic services. FirstEnergy should reform its billing and marketing disclosures for these non-basic services to provide more clarity and comply with the Commission's regulations.

Q. TURNING FIRST TO FIRSTENERGY WITNESS SAVAGE, DID SHE IDENTIFY OR DISCUSS ANY OF THE PRIOR SETTLEMENTS THAT YOU IDENTIFIED IN YOUR DIRECT TESTIMONY?

A. No. FirstEnergy witness Savage only addressed the Company's failure to include any estimated or actual customer savings associated with the PA Consolidation settlement conditions.[5] She did not address any of the settlement conditions I opined upon in my Direct Testimony. I note that I am informed by counsel that FirstEnergy bears the burden of proof in this proceeding. To be clear, FirstEnergy has not fully complied with prior settlements as discussed in my Direct Testimony with respect to the obligation to conduct a proper root cause analysis of customer complaints and BCS findings and the incomplete status of the implementation of the Remote Disconnection settlement commitments. I discuss those issues in more detail below in my response to FirstEnergy witness Mark Jones.

Q. TURNING TO THE REBUTTAL TESTIMONY OF FIRSTENERGY WITNESS JONES, PLEASE RESPOND TO HIS STATEMENTS WITH RESPECT TO FIRSTENERGY'S FAILURE TO CONDUCT A PROPER ROOT CAUSE ANALYSIS OF CUSTOMER COMPLAINTS.

A. Mr. Jones correctly states that I inadvertently referenced the 2016 base rate case as the source of this settlement condition in my Direct at page 31.[6] However, my testimony on

[5] FE PA St. No. 1-R, page 24, lines 1-7.
[6] OCA St. No. 5, page 31.

page 19 correctly identifies the source of this and other settlement conditions as the PA Consolidation Proceeding. With regard to his defense of FirstEnergy's failure to conduct a root cause analysis, Mr. Jones states that the Company complies by "individual complaint investigations, as well as a monthly review of root cause trends…"[7] However, FirstEnergy has never submitted or documented any "root cause analysis" in response to discovery in this proceeding. Furthermore, Mr. Jones does not explain the plain language admission that FirstEnergy has not conducted a root cause analysis as documented in Exhibit BA-6 attached to my Direct.[8] A high level statement that a root cause analysis has been done or is routinely being done without any documentation or evidence is not a reasonable or convincing response to my findings. Finally, Mr. Jones' claim that FirstEnergy cannot conduct a root cause analysis of verified complaints as determined by BCS because the Company does not receive individual complaint data from BCS[9] does not appear reasonable since all BCS complaints are sent to FirstEnergy for their review and response and routine communications from BCS identify their findings.

Q. MR. JONES STATES THAT FIRSTENERGY HAS "FULLY COMPLIED WITH THE REMOTE DISCONNECTION SETTLEMENT."[10] DO YOU AGREE?

A. I do not. It is my understanding from Counsel and based on my participation in stakeholder meetings on the compliance with these settlement terms that FirstEnergy has solicited comments on draft documents and not yet finalized its compliance with these settlement terms. Mr. Jones identifies the two collaborative meetings held to date but there has been no indication that these meetings resulted in finalized consultation or final versions of the

[7] FE PA St. No. 8-R, page 33, lines 18-19.
[8] I discuss this issue in more detail in my Direct, OCA St. No. 6, pages 31-33.
[9] FE PA St. No. 8-R, page 34, lines 10-13.
[10] Ibid., page 34, line 19.

various documents being reviewed in these meetings. My point is that this "compliance" is ongoing and not yet complete. The documents that are currently in use by FirstEnergy are still the subject of ongoing discussions.

Q. TURNING TO MR. JONES' RESPONSE TO YOUR CONCERN WITH RESPECT TO TRAINING AND OVERSIGHT OF CALL CENTER REPRESENTATIVES, DID HE PROVIDE ANY ADDITIONAL EVIDENCE?

Q. No. Mr. Jones makes high level statements about the training and oversight of its customer service representatives[11], a significant proportion of which are contractors and not full time employees as I documented in my Direct.[12] These high level statements are not accompanied by any documentation of how contractors are vetted to handle Pennsylvania customer calls in light of the thousands of pages of training materials that I identified in my Direct. There is no evidence of routine audits or evaluation and/or the certification methods used to determine when contractors or other part time customer service representatives are allowed to handle calls that require compliance with Pennsylvania customer rights and responsibilities as reflected in Chapter 56 and Act 14. While the thousands of pages of training materials might properly reflect these rights and responsibilities, there is no evidence that supports Mr. Jones' assertions about how "extensive training material" is used to allow contractors to handle these customer calls. Nor does he document any internal audits of call center performance. My original recommendation to require FirstEnergy to document routine audits of its call centers generally, and temporary contractors specifically, and document sufficient and realistic training prior to handling Pennsylvania customer calls is reasonable and should be required

[11] Ibid., pages 37 and 39.
[12] OCA St. No. 6, page 26.

by the Commission in any final order in this matter. .

Q. MR. JONES REJECTS YOUR RECOMMENDATION THAT THE COMPANY BE REQUIRED TO CONTINUE TO MEET ITS 2024 CUSTOMER CALL CENTER PERFORMANCE RESULTS. PLEASE RESPOND.

A. Mr. Jones states, "The Company continues to meet the performance requirements set by the Commission and complies with all prior commitments from prior regulatory proceedings."[13] However, there are no performance requirements set by the Commission and there is a dispute about compliance with prior regulatory commitments. Therefore, I continue to recommend a condition to this rate case that is reasonable. My recommendation reflects documented recent performance and should be required by the Commission in a final order on this rate case to prevent deterioration in service during the rate effective year.

Q. MR. JONES CONTINUES TO PROPOSE THAT ITS RATE PROPOSAL INCLUDE AN ADJUSTMENT FOR "POTENTIAL IMPACT OF PROPOSED LEGISLATIVE CHANGES TO CHAPTER 14…"[14] DO YOU AGREE?

A. No. It is unreasonable to adjust rates based on speculative events such as changes in Chapter 14 of the Public Utility Code that may or may not be adopted by the Pennsylvania General Assembly. Furthermore, I find FirstEnergy's reasoning contradictory to the Company's refusal to estimate savings from the PA Consolidation proceeding for the future test year.

Q. PLEASE RESPOND TO MR. JONES' CONTINUED RECOMMENDATION FOR INCLUDING COSTS FOR ITS EV PILOT IN RATES.

[13] FE PA St. No. 8-R, page 38, pages 12-13.
[14] Ibid., page 40, line 10.

A. My Direct testimony correctly identified the policy and substantive project design flaws that supported my recommendation that this "pilot" should not be approved as presented.[15] I acknowledge that FirstEnergy should carefully monitor developments in EV ownership, installation of heat pumps that rely on electricity for home heating and hot water, and the Company should carefully evaluate the impact of these usage trends on its core distribution functions in terms of grid stability and usage patterns. However, these duties and activities do not need the pilot that is proposed in this proceeding. Furthermore, I support FirstEnergy's educational efforts to inform customers about the availability of federal funding for these technologies, as well as information on the safe installation of home charging equipment, a role that is routinely currently done by EV manufacturers and sales agents. Again, these educational as opposed to promotional messages do not require a separate pilot program. To the extent that FirstEnergy seeks to establish a tariff and policy governing the installation of "make ready" work undertaken by utilities for commercial charging equipment, that would also be appropriate, but the Company has not chosen to pursue this approach. Instead, the Company has created a "pilot" that includes grants and customer rebates and appears to rely on promotional messages concerning EV purchases. As a result, I continue to oppose this proposal for the reasons stated in my Direct testimony.

Q. DOES MR. JONES DEFEND THIS EV PILOT BASED ON TYPICAL DISTRIBUTION SERVICE OBLIGATIONS?

A. No. Mr. Jones defends this program that is designed to promote the use of EVs and require customers to pay for a new full time employee, grants, rebates, and yet undeveloped marketing materials that is justified based on providing additional social benefits to the

[15] OCA St. No. 6, pages 9-17.

public generally and EV owners specifically through air quality, climate, tail pipe emission reduction, regenerative braking, among other undocumented outcomes.[16] These social benefits are not a reflection of the proper role of the distribution company to ensure reliable service at reasonable rates.

Q. WHO WILL PAY FOR THIS PILOT AND WHO WILL BENEFIT FROM THIS PILOT IN TERMS OF REGULATED DISTRIBUTION SERVICES?

A. Under normal ratemaking policies, all residential customers will pay for this Pilot and only a few customers who are purchasing an EV or selected commercial or other entities who are funded for grant assistance will benefit from this program. FirstEnergy has not documented any distribution service benefits associated with this program. Therefore, the program will contribute to the unaffordability of essential electricity service for vulnerable and lower income customers, most all of whom will not participate in this program.

Q. ARE THE DUQUESNE LIGHT COMPANY PILOT PROGRAM OR THE PECO ENERGY PUBLIC BENEFIT PROGRAM A SUFFICIENT JUSTIFICATION FOR FIRSTENERGY'S PROPOSED PROGRAM?

Q. No. First, Duquesne Light's program reflected a settlement. Second, that program did not involve customer rebates but focused on public facing infrastructure installed by the distribution utility with contributions from state and federal resources. Third, that program was developed with extensive local governmental entities, a feature not reflected in FirstEnergy's proposal. The PECO Energy program cited by Mr. Jones involves commercial charging equipment and was also a result of a settlement that resulted in significant changes to PECO's original proposal, including a detailed evaluation plan and

[16] Ibid., pages 46-47.

consultation with stakeholders on the development of the program.[17] Nor does PECO's program involve customer rebates for home charging equipment.

Q. WAS FIRSTENERGY'S PROPOSED PILOT DEVELOPED WITH CONSULTATION AND/OR COORDINATION WITH FEDERAL FUNDING?

A. No. There is no evidence that FirstEnergy's proposal reflects any coordination with or integration with available federal funding opportunities for commercial and residential EV charging. Nor does FirstEnergy identify why its proposed program is needed in light of these federal funds that were not otherwise available at the time of the prior pilots approved for Duquesne Light or PECO Energy.

Q. DID FIRSTENERGY INCLUDE A PROPER EVALUATION PLAN WITH ITS PROPOSAL?

A. No. While Mr. Jones attempts to remedy that defect with his description of "expenses and metrics" that will be tracked with the program,[18] that list is a poor substitute for a proper evaluation and monitoring plan that reflects a statistically valuable set of data with a data dictionary that accompanies a properly designed pilot program. The original proposal included in FirstEnergy's Direct testimony did not include any evaluation plan or even the identification of key metrics and data gathering protocols. Mr. Jones' Rebuttal does not repair this defect.

Q. HAS FIRSTENERGY DEVELOPED A RATE OPTION TARGETED TO EV OWNERS?

A. No. According to Mr. Jones, the current TOU rate option is "well designed to accommodate EV charging needs."[19] I do not agree with that statement. The current TOU

[17] See, the extensive discussion of the development of this settlement provision in the ALJ's Recommended Decision, pages 61-67. PUC VS. PECO ENERGY, DOCKET NO. R-2021-3024601, Order (October 12, 2021).
[18] FE PA St. No. 8-R, page 49, lines 11-21, page 50, lines 1-2.
[19] *Ibid*., page 48, lines 2-3.

rate option is a whole house rate that requires an EV owner to accept TOU rates for all usage and not merely the EV usage. This program is poorly subscribed as admitted by Mr. Jones with only 1,204 customers enrolled in the residential TOU program in the four FirstEnergy distribution companies that serve over 2 million customers in Pennsylvania.[20] There is no evidence that a whole house TOU rate option is desired by EV owners. Mr. Jones offers no evidence that current EV owners have subscribed to FirstEnergy's TOU rate option.

Q. PLEASE RESPOND TO MR. JONES' DISCUSSION OF HOW THE EV PILOT ALIGNS WITH ACT 129.

A. If, as Mr. Jones alleges, its pilot "aligns with the goals and objectives set forth in Act 129,"[21] I recommend that FirstEnergy propose its pilot in an Act 129 filing and comply with the evaluation and independent evaluation protocols required by those programs. This base rate case is not the proper venue for this proposal.

Q. MR. JONES REJECTS YOUR PROPOSAL TO IMPROVE FIRSTENERGY'S DISTRIBUTION BILLS TO INCLUDE A CALCULATION OF WHAT THE CUSTOMER WOULD PAY FOR SUPPLY UNDER THE PRICE TO COMPARE. PLEASE RESPOND.

A. Mr. Jones apparently finds it necessary to argue on behalf of retail electricity suppliers in rejecting this proposal.[22] I disagree with his reasoning. First, the design of the FirstEnergy bill is a function of its core distribution service. Second, the Commission has consistently urged customers to compare their prices and charges for supplier contracts with the PTC

[20] Ibid., page 48, line 20.
[21] Ibid., page 50, lines 16-17.
[22] Ibid., page 52, lines 3-18.

and the Commission's own shopping web portal compares the supplier offers with the current PTC. Finally, FirstEnergy has purchased these supplier receivables. These charges are no longer "owned" by the supplier, but they are being presented and collected by FirstEnergy pursuant to distribution service collection policies, including late fees, payment arrangements and disconnection for nonpayment. It is not reasonable to argue that the Default Service Proceedings are the only venue for considering a new bill disclosure based on a fact based calculation of information within the control of FirstEnergy (the customer's monthly usage times the applicable PTC). The basis for Mr. Jones' argument should be rejected.

Q. DO YOU AGREE WITH MR. JONES' STATEMENT THAT THE "CLAWBACK" PROVISIOIN OF THE SUPPLIER TARIFF IS THE BEST METHOD TO ADDRESS SUPPLIERS WHO CHARGE MORE THAN THE PTC?

A. No. Mr. Jones' reference is to a provision of its Supplier Tariff that allows the Company to charge more for some supplier receivables based on their high bill impact.[23] However, that provision does not protect the customers who have been billed high prices by suppliers. That provision may protect the Company from higher than normal collection charges but has nothing to do with the need to track and react to high supplier charges on the customers. Mr. Jones' testimony on this point does not reflect any recognition of the customer impacts of high supplier prices and only focuses on the Company's collection costs.

Q. ACCORDING TO MR. JONES, THE FIRSTENERGY PRESENTATION OF NON-BASIC CHARGES ON ITS CUSTOMER BILLS COMPLIES WITH COMMISSION REGULATIONS. DO YOU AGREE WITH HIS INTERPRETATION?

[23] Ibid., page 53, lines 4-14.

A. I continue to recommend that the Commission initiate an investigation of FirstEnergy's non-basic service billing disclosures and marketing practices. I think it is important to point out that Mr. Jones has not fully presented the applicable regulations. Chapter 54.4(b)(2) and (3) states:

> (2) Charges for basic services must appear before charges for nonbasic services, and appear distinctly separate.
>
> (3) Customer bills must contain the following charges, if these charges are applicable, and these charges must appear in a distinct section of the bill. **The designation or label of each charge as either a basic charge or nonbasic charge appears in parenthesis following the name of the charge.** This label of either basic or nonbasic is not required to accompany the name of the charge on the bill.

Mr. Jones does not fully quote these provisions in his testimony and omits the sentence I have identified in bold.[24]

Q. MR. JONES STATES THAT THESE CHARGES ARE NOT "HOMESERVE'S CHARGES," BUT "FE PA'S CHARGES FOR NON-BASIC SERVICES ON THE BILLS."[25] DOES THIS CHANGE YOUR RECOMMENDATION?

A. No. This is a distinction without a difference in terms of my identified concerns with the bill disclosures and marketing materials. The services are marketed under HomeServe's name and the customer enrolls with HomeServe directly. As documented in my Exhibit BA-10, the marketing materials state that FirstEnergy does not warrant any of the services and disavows any responsibility for the product being marketed by HomeServe. Any reasonable consumer would assume that the service is being provided by HomeServe, an

[24] Ibid., page 55, lines 1-3.
[25] Ibid., page 55, lines 16-17.

independent company that markets these services to other utility customers, and not FirstEnergy.

Q. MR. JONES STATES THAT ALL COSTS FOR THIS PROGRAM ARE NOT INCLUDED IN RATES. IS THIS STATEMENT SUFFICIENT TO JUSTIFY REJECTION OF YOUR RECOMMENDATION FOR A FURTHER INVESTIGATION?

A. No. It would be appropriate and reasonable for the Commission to investigate this situation in more detail in light of the mailings and communications sent to FirstEnergy's customers exhorting this program, the web portal statements, the collection practices, and the use of the Company's call center to handle calls for this program as stated by Mr. Jones with regard to customer complaints and inquiries about these non-basic services.[26]

Q. MR. JONES STATES THAT THE COMMISSION'S PRIOR APPROVAL OF ALLOWING FIRSTENERGY TO BILL NON-BASIC CHARGES IS DISPOSITIVE TO MY CONCERNS ABOUT THE USE OF CUSTOMER INFORMATION FOR MARKETING THESE PRODUCTS. DO YOU AGREE?

A. I agree that the Commission's order in the prior proceeding cited by Mr. Jones allows the Company to bill for these "non-commodity" goods and services.[27] The issues I have raised in this proceeding relate to billing disclosures, marketing disclosures, and the use of customer information gathered in the course of its regulated distribution service function to market these non-basic services that are provided by HomeServe as an agent of FirstEnergy. I rely on Counsel to provide additional legal argument on this matter in Briefs.

Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?

A. Yes.

[26] Ibid., page 57, lines 8-10.
[27] Ibid., page 59.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Barbara Alexander, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 6SR, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2024

Signature: Barbara Alexander
_____
Barbara Alexander

Address: Barbara Alexander Consulting LLC
44 Beech St.
Hallowell, ME 04347

OCA St. 6R

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v. Docket No. R-2024-3047068

FirstEnergy Pennsylvania Electric Co.

REBUTTAL TESTIMONY OF

Barbara R. Alexander

ON BEHALF OF THE

OFFICE OF CONSUMER ADVOCATE

July 22, 2024

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is Barbara R. Alexander. I am the sole member manager of Barbara Alexander Consulting LLC. My office is located at 44 Beech St., Hallowell, ME 04347. I appear as a witness for the Pennsylvania Office of Consumer Advocate (OCA).

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN THIS PROCEEDING?

A. Yes. I submitted Direct Testimony on behalf of the OCA on June 25, 2024.

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. I am filing Rebuttal Testimony in response to Ms. Christine Wilson on behalf of the Bureau of Investigation and Enforcement (I&E) with respect to her recommendations on FirstEnergy's proposed Electric Vehicle Pilot.[1]

Q. PLEASE SUMMARIZE MS. WILSON'S TESTIMONY CONCERNING THE PROPOSED ELECTRIC VEHICLE PILOT.

A. Ms. Wilson correctly states that FirstEnergy is seeking to recover $7,480,000 for this program, but she recommends including $5,160,000 in rates and accepts some of FirstEnergy's proposal, stating, "My recommendation accepts the assertion that it is beneficial for the community to expand public charging infrastructure and aid governmental and nonprofit agencies especially where public transportation is concerned, but I disagree that [*sic*] with the recovery of costs for the proposed dealership EV toolkit of $320,000 and the EV residential rebates of $2,000,000."[2] In a footnote accompanying this statement, Ms. Wilson raises a concern about her recommendation to include these programs in rates, "This acceptance is made despite that many ratepayers will not make

[1] I&E Statement No. 4.
[2] Ibid., page 54, lines 7-11.

use of or benefit from such equipment."[3] As a result, Ms. Wilson accepts all but $2,320,000 of these proposed program costs, eliminating only the $2,000,000 residential rebates and the $320,000 dealership toolkit program.

Q. DO YOU AGREE WITH MS. WILSON'S RECOMMENDATION TO INCLUDE $5,160,000 IN RATES FOR THE ELECTRIC VEHICLE PILOT PROGRAM?

A. I do not. While I agree with her elimination of the rebates to subsidize EV charging equipment for residential customers and the dealer toolkit program, the balance of what Ms. Wilson proposes to include in rates is not reasonable or appropriate for reasons I documented in my Direct Testimony. Turning to the basis for her support for these expenditures, I offer the following additional reasons to reject her recommendations:

- First, Ms. Wilson's conclusion that it is "beneficial" to support EV charging systems in the community does not take into account the existence of federally funded programs to achieve this objective. There is no basis for concluding that FirstEnergy's ratepayer funding of these objectives is either necessary or even coordinated with the federal programs or the Commonwealth's implementation of these programs. I attach the U.S. Department of Transportation description of these programs, including the obligation to target the intended recipient of FirstEnergy's proposal: "At least 50 percent of Charging and Fueling Infrastructure funding must be used for a community grant program where priority is given to projects that expand access to EV charging and alternative fueling infrastructure within rural areas, low- and moderate-income neighborhoods, and communities with a low ratio of private parking spaces." See, Exhibit BA-11.

[3] Ibid., page 54, fn.97.

- Second, Ms. Wilson's footnote attached to her recommendation reflects the obvious concern that these programs are in their infancy and are likely to be valuable to only a small number of residential customers, and particularly not of any benefit to those that are not purchasing EVs yet due to cost and other factors. FirstEnergy's proposal is premature, underdeveloped, and costly to ratepayers. This is especially important as FirstEnergy is currently requesting a rate increase of over half a billion dollars.
- Ms. Wilson does not account for the lack of any reasonable evaluation plan developed by FirstEnergy to justify the use of these ratepayer funds.
- Finally, the lack of any details with respect to FirstEnergy's proposal on how this program will be implemented or the background information that would identify the distribution system planning and coordination with state officials contributes to my recommendation to not approve this poorly developed program at this time.

Q. PLEASE ADD ANY ADDITIONAL BASIS FOR REJECTING I&E'S PROPOSAL.

A. I find that Ms. Wilson's recommendation is overly broad and without justification to incur ratepayer funding for a program that is not justified in terms of rates for distribution services. As a result, I include my recommendations as set forth in my Direct Testimony that should govern the consideration of FirstEnergy's EV pilot proposal:

- First, the programs that are designed to use ratepayer funds to stimulate customer adoption or investments in electrification of vehicles should not be approved. It is not an appropriate role of the EDC to use ratepayer funds for this purpose, particularly in light of the extensive federal funds available for these same purposes. At no point does FirstEnergy document that its proposed rebates and other ratepayer funded subsidies to individuals or businesses would be necessary or even incrementally effective in promoting EV purchases

or other appliances beyond the already available tax and point of sale rebates. I&E provides no support for why using ratepayer funds for services that go beyond electric distribution services is appropriate.

- Second, educational programs may be appropriate to assist customers in making purchasing and investment decisions based on the implications for the FirstEnergy electric bill if not promotional in nature. These materials should be educational in nature. Meaning that they should inform and educate the customer on the impact of a program so that a customer can make an appropriate decision on whether a program will be beneficial to them. It is also appropriate for FirstEnergy to refer customers to state or federal level resources about specific programs for appliances and impacts of these consumer decisions on energy costs and FirstEnergy electric bills. However, FirstEnergy has not developed any of its proposed outreach and educational materials in this proceeding[4] so that approving expenditures for this purpose is not appropriate at this time. Ratepayers should not be required to pay for material that could be promotional in nature.

- Third, FirstEnergy has not identified or provided sufficient details for an acceptable evaluation plan for this "pilot."[5] Any such programs must be accompanied by a well-designed evaluation plan that collects sufficient data to determine the value and impact of any pilot program on distribution services. The purpose of any well-structured pilot is not merely to incent certain customers to engage in a discretionary purchase, but to determine the value to non-participating ratepayers and the distribution system as a whole. I&E witness Wilson seeks an after-the-fact reporting of yearly breakdowns of costs compared

[4] FirstEnergy Response to OCA-V-36.
[5] FirstEnergy Response to OCA-V-22 merely recites the intent to gather program activities as its evaluation plan. There is no actual evaluation plan that has been developed or submitted to support the approval of this pilot.

to budget components approved by the Commission by year, starting with 2025 and beyond.[6] Implementing an experimental "pilot" program without any evaluation plan or metrics to gauge success is not a reasonable approach to using Pennsylvania ratepayer funds by a regulated electric distribution company tasked with providing safe and affordable service. Reports breaking down the cost of the program after ratepayer funds are already expended is inadequate. As I discussed in my direct testimony, while FirstEnergy could have developed an EV rate design in response to the Commission's recent rulemaking, it has chosen not to. Instead, FirstEnergy proposes an underdeveloped and expensive pilot program to expand its business beyond the distribution of electricity. FirstEnergy's proposal is premature, underdeveloped, and should be denied.

Q. DOES THIS CONCLUDE YOUR TESTIMONY AT THIS TIME?

A. Yes.

[6] I&E Statement No. 4, page 56, ln 4-8.

EXHIBIT BA-11

An official website of the United States government Here's how you know

Rural EV Toolkit Home
Electric Mobility Basics
Benefits and Implementation Challenges of Rural EV Vehicle Electrification
Partnership Opportunities
EV Infrastructure Planning for Rural Areas
EV Infrastructure Funding and Financing for Rural Areas
Overview: Funding and Financing for Rural Areas
Overview of Federal Funding and Financing Programs
Federal Funding Application Process
Funding Eligibility Definitions
Federal Funding Programs
Additional Funding Resources
Rural EV Infrastructure Funding Table
Resources for EV Infrastructure Planning
Environmental Statutes and Executive Orders
Glossary of Abbreviations
Works Cited
ROUTES Home

Related Documents

- Rural EV Toolkit (PDF Version)

Contact Us

Federal Funding Programs

While the funding table at the end of this section provides a comprehensive list of available programs, the below overview highlights some of the most relevant and widely used programs for rural EV infrastructure. These “key programs” are organized by administering agency.

The Bipartisan Infrastructure Law (BIL)

On November 15, 2021, President Biden signed the Bipartisan Infrastructure Law (BIL) which contains significant new funding for EV charging stations. Key new USDOT programs include the National Electric Vehicle Infrastructure (NEVI) Formula Program ($5 billion) and the Discretionary Grant Program for Charging and Fueling Infrastructure ($2.5 billion). The law also makes the installation of EV charging infrastructure an eligible expense under the USDOT Surface Transportation Block Grant formula program. Additionally, BIL provides funding to USDOT, DOE, and EPA for the deployment of electric school buses and ferries, port electrification, a domestic supply chain for battery production, and battery recycling, among other EV-related initiatives.

The Inflation Reduction Act

Signed into law on August 16, 2022, the Inflation Reduction Act (IRA) will be the largest climate investment in U.S. history. The IRA includes provisions to revitalize American manufacturing and create clean energy jobs and provides additional resources to improve access to EVs and EV charging infrastructure. The IRA will enable several EV-related programs across multiple Federal agencies, including USDOT, DOE, EPA, HUD, and the Department of the Treasury.

Expand All Collapse All

USDOT Key Programs

National Electric Vehicle Infrastructure Formula Program (FHWA)

The National Electric Vehicle Infrastructure Formula Program (NEVI) created under BIL apportions a total of $5 billion to States, D.C., and Puerto Rico over five years, from Fiscal Year 2022 through 2026, to strategically deploy EV charging infrastructure and to establish an interconnected national network to facilitate station data collection, access, and reliability. Program funds can be used for the acquisition, installation, network connection, operation, and maintenance of EV charging stations, as well as long-term EV charging station data sharing.

Initially, funding under this program is directed to designated Alternative Fuel Corridors (AFCs) for electric vehicles to build out this national network, with DC fast chargers every 50 miles and within 1 mile of the corridor. FHWA funded projects must meet the EV Charging Minimum Standards Rule, issued in February 2023. Once a State’s AFC network is fully built out, funding may be used on any public road or in other publicly accessible locations.

ROUTES Initiative
Office of the Under Secretary for Policy
1200 New Jersey Ave SE
Washington, DC 20590
United States
Email: rural@dot.gov
Phone: 202-366-4544
Business Hours:
8:30am-5:00pm ET, M-F

If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

States are required to submit annual plans on how they will strategically and equitably use their NEVI funds for EV infrastructure deployment. Many States have created websites with information on their plans, and many are soliciting public input, including from Tribal Governments and organizations, to ensure equitable use of NEVI funds. The Joint Office of Energy and Transportation provides key technical assistance and guidance to States in developing and implementing their plans.

- **Eligible EV activities**: LDV charging, public transportation charging, infrastructure planning, workforce development.
- **Eligible applicants**: States, D.C., Puerto Rico.
- **FY22-FY26 formula grant range (to States, D.C., and P.R.[1])**: $13,600,000 – $407,800,000.
- **Frequency:** Funding is allocated to State DOTs on an annual basis.
- **Match requirement**: The Federal share of eligible project costs is 80 percent. Private and State funds can be used to provide the remaining cost-share.

[1] *This grant range represents the total amount of money distributed to each State over a 5-year period. These funds are distributed at a national level based on a formula. These formulas may use various characteristics of each State to provide variable levels of funding.*

Congestion Mitigation and Air Quality Improvement Program (FHWA)

Charging and Fueling Infrastructure Discretionary Grant Program (FHWA)

The Charging and Fueling Infrastructure (CFI) Discretionary Grant Program created under BIL is a competitive grant program to strategically deploy publicly accessible electric vehicle charging infrastructure as well as hydrogen, propane, and natural gas fueling infrastructure along designated Alternative Fuel Corridors or in other publicly accessible locations.

At least 50 percent of CFI funding must be used for a community grant program where priority is given to projects that expand access to EV charging and alternative fueling infrastructure within rural areas, low- and moderate-income neighborhoods, and communities with a low ratio of private parking spaces.

The Joint Office of Energy and Transportation created under BIL supports the implementation of this program. Tribal and local governments can use this program to complement State efforts initiated under NEVI. FHWA funded projects must meet the EV Charging Minimum Standards Rule, issued in February 2023.

- **Eligible EV activities**: Light, medium, and heavy-duty vehicle charging, public transportation charging, commercial charging, infrastructure planning.
- **Eligible applicants**: States, Tribes, localities, MPOs, and U.S. Territories (corridor and community projects). Additional eligible entities for community-based projects include housing authorities, parks authorities, public stadium authorities, public development authorities, and other State or local authorities with ownership of publicly accessible transportation facilities.
- **Grant range**
  - **Corridor Program:** $1,000,000 – no maximum.
  - **Community Program**: $500,000 - $15,000,000.
- **Frequency**: Annual

Federal Lands Access Program (FHWA)

Grants for Buses and Bus Facilities Programs (FTA)

Rebuilding American Infrastructure with Sustainability and Equity (OST)

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Co.	:	

VERIFICATION

I, Barbara R. Alexander, hereby state that the facts above set forth in my Rebuttal Testimony, OCA St. 6R, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: July 22, 2024

Signature: Barbara Alexander

Barbara R. Alexander

Address: Barbara Alexander Consulting LLC
44 Beech St.
Hallowell, ME 04347

OCA St. 7

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Company	**)**	

DIRECT TESTIMONY OF

RAO KONIDENA

ON BEHALF OF THE

COMMONWEALTH OF PENNSYLVANIA

OFFICE OF CONSUMER ADVOCATE

June 25, 2024

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I. QUALIFICATIONS

Q. What is your name and business address?

A. My name is Rao Konidena. My business address is Rakon Energy LLC, Roseville, MN 55113.

Q. By whom are you employed and in what capacity?

A. I am the President of Rakon Energy LLC. Rakon Energy is owned and operated by me.

Q. On whose behalf are you testifying today?

A. I am testifying on behalf of the Office of Consumer Advocate ("OCA").

Q. Please describe your background and experience in transmission planning.

A. I have been an independent energy consultant for six years, primarily focusing on transmission and distribution reliability studies and policy. I worked in Transmission Asset Management at Midcontinent Independent System Operator ("MISO"), similar to PJM, from September 2003 to May 2018. I started as an Applications Engineer for Planning, where I ran transmission reliability studies, transmission capacity calculations, and analysis for the MISO Transmission Expansion Plan ("MTEP").

I was later promoted to Lead, Resource Forecasting in 2006, responsible for a team of engineers running the capacity forecasting software. That forecasting work is incorporated in the MTEP non-transmission alternatives section. After a promotion to Manager of Resource Forecasting in 2009, I led Demand Response and Energy Efficiency forecasting for MTEP.

I worked in compliance, process, and project management for the Transmission Asset Management ("TAM") division as Senior Manager of TAM Operations from 2013 to 2015. In this role, my team and I were responsible for division-wide financial and strategic planning, supporting corporate planning and compliance efforts. I came back to the Policy Studies department in the Principal Policy Advisor role for MISO in 2015, leading the long-term load forecasting project with Purdue University's State Utility Forecasting Group and Applied Energy Group demand response ("DR"), energy efficiency ("EE") and distributed generation ("DG") potential study at MISO.

Before leaving MISO in 2018, I led policy efforts on energy storage and distributed energy resources within economic transmission planning. I presented to MISO state commissions, including the Iowa Utilities Board, the South Dakota State Public Utilities Commission, and the Organization of MISO States.

As an independent consultant, I have submitted direct testimonies on behalf of my clients at the Public Service Commission of Wisconsin (Transmission Line Certificate of Public Convenience & Need docket), Minnesota Public Utilities Commission (Aggregator of Retail Customer docket), Kansas Corporation Commission (Demand Response Aggregator docket), California Public Utilities Commission (Diablo Canyon Power Plant extension docket), North Carolina Utilities Commission (Duke Energy Carolinas General Rate Case and Duke Energy Consolidated Carbon Plan and Integrated Resource Plans), Pennsylvania Public Utilities Commission (Transmission Line rebuild Letter Of Notification docket), Maryland Public Service Commission (Transmission Line Certification of Public Convenience And Necessity docket) and Illinois Commerce Commission (Transmission Line Certificate of Public Convenience and Necessity).

I have also provided energy storage expertise to the Office of Consumer Advocate ("OCA") in the Pennsylvania Public Utilities Commission energy storage Docket No. M-2020-3022877. I have also provided generic electrical engineering expertise for OCA in the transmission, distribution services and miscellaneous electric issues.

My resume is attached as Appendix A.

Q. Please provide your educational background.

A. I received a Bachelor of Engineering in Electrical & Electronics Engineering from Bangalore University, a Master of Science in Electrical Engineering from the University of Texas at Arlington, and a Master of Business Administration from the University of Minnesota.

II. DIRECT TESTIMONY

Q. What is the purpose of your testimony in this case?

A. The purpose of my testimony is to show that FirstEnergy's (FirstEnergy or Company) reliability performance is worse than its peers, even after investments in the long term infrastructure improvement plans (LTIIP) and vegetation management program. Hence, FirstEnergy's proposed base rate increase in this proceeding should not be approved in its entirety. The solution to FirstEnergy's problems is not more money, it is better, more prudent and targeted vegetation management, new proposals to address the root of the problem, including addressing off right of way trees, and system planning. Specific adjustments to the Company's proposed base rate increase will be addressed in the

testimony of OCA witnesses Dante Mugrace and Marlon Griffing. I address the reliability metrics and reliability planning.

Q. Have you previously testified before this Commission?

A. Yes, I have previously testified before this Commission in the Letter Of Notification Of PPL Electric Utilities Corporation, Filed Pursuant To 52 Pa. Code Chapter 57 Subchapter G, For Approval To Rebuild The Existing Double- Circuit Stanton-Summit #3 And #4 230 kV Transmission Lines Connecting the Stanton 230 kV Substation And A Two-Pole Turn Structure That Are Respectively Located In Luzerne And Lackawanna Counties, Pennsylvania. Docket No. A-2022-3037374.

Q. On what information is your testimony based?

A. My testimony is based on reviewing FirstEnergy's testimonies, 2024 Summer Readiness Overviews, Annual Electric Service Reliability Reports, FirstEnergy Annual Reliability Reports, FirstEnergy Deferred Storm Damage Petitions, the Commission's Order on FirstEnergy company's Long Term Infrastructure Improvement Plans issued in January 2020, FirstEnergy's responses to OCA interrogatories, and UGI Electric - Battery Storage Order.

Q. How is your testimony organized?

A. My direct testimony is organized in the following sections:

III. Reliability Performance of FirstEnergy

IV. Enhanced Vegetation Management Program

V. Worst Performing Circuits

VI. Undergrounding Distribution Circuits

VII. Storm Damage Expenses

VIII. Summary

Q. Can you please summarize your recommendations?

A. I recommend that the Commission partially reject FirstEnergy's enhanced vegetation management program because there is no guarantee that vegetation management alone produces better reliability performance. Even if there are results from the enhanced program, FirstEnergy estimates it takes 8-10 years to realize those results. If the Commission chooses to approve the program, I recommend a 1-2 year cycle, and the Commission evaluates the success of the enhanced vegetation management program after 4 years.

As FirstEnergy's reliability reports show, a major cause of outages continues to be off-corridor, off- Right-Of-Way (ROW) trees[1] and limbs. Yet, in the Company's testimonies I find no new or innovative approaches that FirstEnergy is proposing to deal with this problem. Additionally, FirstEnergy knew overhanging vegetation had been an issue since at least 2019, yet it appears that trimming of overhanging vegetation has not been a priority.

[1] Off-corridor and off-ROW trees are synonymous and are used to describe trees that are adjacent to the Company's ROW but are located on private property. The company also describes these trees as "priority trees". See FE PA Response to OCA Interrogatory Set VI, No. 10(d).

As a result, FirstEnergy's historical reliability performance is negatively trending in the System Average Interruption Duration Index (SAIDI) and Customer Average Interruption Duration Index (CAIDI) reliability metrics and is worse compared to its peers in the SAIDI metric.

I recommend that FirstEnergy study installing batteries at locations where worst performing circuits are repeatedly occurring. Batteries would reduce customer outage durations and improve reliability metrics during outages. Precedents for such installations exist, including approvals for UGI Utilities, Inc. and Duquesne Light Company projects.

Regarding reporting, I recommend detailed annual reporting for the enhanced vegetation management program should be undertaken by FirstEnergy to provide specific expense details and reliability improvements. And I recommend the Company evaluate annually whether the enhanced vegetation management program is working and document the evaluation in a report. Finally, I recommend FirstEnergy combine this report with the study of batteries and undergrounding to be included as part of the Company's annual reliability report to the Commission.

Additionally, I recommend undergrounding parts of the distribution circuits that are experiencing repeat outages and are hard to reach for vegetation management. Undergrounding a distribution circuit removes the need for tree trimming. Since off corridor trees are the major cause of the Company's reliability performance, undergrounding eliminates this major reason for outages and leads to better reliability performance.

Finally, I recommend an appropriate adjustment to the $85 Million FirstEnergy is seeking for extraordinary storm damages, as my review indicates that the Company has not paid adequate attention to off-corridor trees and overhanging vegetation in order to ameliorate some of the damage caused by these storms. OCA witness Dante Mugrace addresses the adjustment in his testimony.

III. RELIABILITY PERFORMANCE OF FIRSTENERGY

Q. What are the common metrics used to measure the reliability performance of distribution systems?

A. In 2004, the Commission established "reliability benchmarks and standards to measure the performance of each electric distribution company[2]." These reliability benchmarks and standards were established because the "Electricity Generation Customer Choice and Competition Act mandates the Commission ensure the level of reliability that existed prior to the restructuring of the electric utility industry is maintained in the newly restructured markets[3]."

The Commission notes that these reliability performance metrics are based on performance metrics adopted by the Institute of Electrical and Electronics Engineers (IEEE). The reliability performance of the distribution system is commonly measured in three metrics[4]:

[2] Executive Summary, 2022 Pennsylvania Electric Reliability Report.
[3] Page 1, 2022 Pennsylvania Electric Reliability Report.
[4] There is a fourth metric, MAIFI – Momentary Average Interruption Frequency Index, which measures the occurrences of momentary customer interruptions. But not all Pennsylvania utilities report MAIFI - "Only Met-Ed, PECO, Penelec, Penn Power and PPL report MAIFI." Footnote 23, 2022 Pennsylvania Electric Reliability Report.

- SAIFI – System Average Interruption Frequency Index
- CAIDI – Customer Average Interruption Duration Index
- SAIDI – System Average Interruption Duration Index

SAIFI measures the frequency of outages, CAIDI measures the duration of outages and SAIDI measures the frequency of sustained outages. All three metrics indicate the reliability performance of an Electric Distribution Company (EDC) such as FirstEnergy. All three metrics must be taken together to assess the reliability performance of an EDC. For example, if we focus on SAIFI, we might miss the outage duration metrics – CAIDI and SAIDI. If we focus on CAIDI and SAIDI, we miss the outage frequency metric – SAIFI. Another reason to focus on all three metrics is, if we focus on the system level – SAIFI and SAIDI, we might lose sight of the customer level captured in the customer metric – CAIDI. Hence none of the metrics is more important than the other because they each provide us insights into EDC's reliability performance from different perspectives.

Q. How is the distribution system's reliability performance measured against these metrics?

A. For each of the three reliability metrics, EDCs report quarterly and annual performance data. The Commission puts together an annual Pennsylvania Electric Reliability Report ("report") that indicates how the EDCs are performing annually for the past three years and also provides a 3-year average and 3-year standard values for each of the reliability metrics. There is a color-coded performance scorecard put together for each EDC, showing which EDCs have metrics achieved (green color), benchmark metrics not achieved (yellow color), and standard metrics not achieved (red color).

The terms "metrics" and "values" are used interchangeably throughout this testimony.

Q. What are benchmark performance values and standard performance values, and how are they established?

A. A benchmark performance value represents the statistical average of the individual reliability metric. For example, if the SAIFI of Pennsylvania Power Company (Penn Power), a FirstEnergy Rate District, is 0.97 in 2020, 1.00 in 2021 and 0.99 in 2022, the 3-year benchmark metric is 0.99, which is the statistical average of the historical 3-year SAIFI values. The report notes, "The benchmark value serves as an upper limit that EDCs should be consistently achieving to ensure reliability performance is considered satisfactory and acceptable.[5]"

A standard performance value represents the upper limit for the individual reliability metric that an EDC should not exceed. For example, the 3-year standard performance value for SAIFI for Penn Power is 1.23[6]. The report notes, "The performance standard limit allows an EDC to exceed a benchmark limit occasionally and briefly.[7]"

But if an EDC consistently exceeds a benchmark limit or a standard limit, then "EDC's performance is not satisfactory and requires additional scrutiny by the Commission.[8]"

[5] Page 3, 2022 Pennsylvania Electric Reliability Report.
[6] Three-Year Average Electric Reliability Indices for 2020-2022, Appendix A, 2022 Pennsylvania Electric Reliability Report.
[7] Page 3, 2022 Pennsylvania Electric Reliability Report.
[8] Page 3, 2022 Pennsylvania Electric Reliability Report.

Q. How frequently are the benchmark performance values reported?

A. Each of the EDCs quarterly report their reliability performance data on a rolling basis. The Commission staff compiles this data in the report, which shows both rolling 12-month average ("short term") and 3-year average ("long term") values for each of the three reliability metrics. Similarly, Commission staff show both 12-month standard and 3-year standard values. For example, as mentioned earlier, the 3-year standard performance value for SAIFI for Penn Power is 1.23. However, the 12-month standard performance value for SAIFI for Penn Power is 1.34[9]. The table below shows only the SAIFI standard values for illustrative purposes[10]. The table illustrates that the 3-year long term standard is a lower number, indicating better performance, as opposed to the 12-month short term standard.

Table 1 - SAIFI standard values for 12-month and 3-year

Rate District	12-month standard	3-year standard
Met-Ed	1.38	1.27
Penelec	1.52	1.39
Penn Power	1.34	1.23
West Penn Power	1.26	1.16

[9] 12-Month Average Electric Reliability Indices for 2022, Appendix A, 2022 Pennsylvania Electric Reliability Report.
[10] Three-Year Average Electric Reliability Indices for 2020-2022, Ibid.

Q. How are the rolling 12-month and 3-year average standards established?

A. The rolling 12-month average is 120% of the benchmark for large EDCs[11]. The rolling 3-year average is 110% of the benchmark for all EDCs. The report notes, "This performance standard was set at 10% above the historical benchmark to ensure that the standard is no higher than the worst annual performance experienced during the years prior to the restructuring of the electric industry.[12]" Hence, the 3-year average standard provides context on how an EDC is performing compared to before the restructuring of the electric utility industry.

Q. Is there additional data reported by the EDCs?

A. Yes, in addition to the SAIFI, CAIDI and SAIDI metrics, the Pennsylvania EDCs report[13]

- "Average number of customers served.
- Number of sustained customer interruption minutes.
- Number of customers affected by service interruptions.
- Analysis of outage causes such as equipment failure, animal contact and contact with trees.
- Reliability performance on the 5% of worst performing circuits and a corrective action plan to increase the reliability of these circuits."

[11] FirstEnergy companies fall under the large EDC category. For small EDCs, the rolling 12-month average is 135% of the benchmark. Footnote 26, 2022 Pennsylvania Electric Reliability Report.
[12] Page 3, 2022 Pennsylvania Electric Reliability Report.
[13] Page 2, 2022 Pennsylvania Electric Reliability Report.

Q. How does FirstEnergy characterize the historical reliability performance of its distribution system?

A. In the 2024 Base Rate Case Filing, FirstEnergy indicates that CAIDI and SAIDI metrics are negatively trending, and SAIFI is positively trending[14]. The Company states that SAIFI has improved by 19% since 2019, partly due to work completed in the Long Term Infrastructure Improvement Plans (LTIIP). Based on my calculations of the Company's performance metrics by Rate District[15], the Company's CAIDI has gotten worse - reduced by 34%, and SAIDI has also gotten worse - reduced by 9% in the past 5 years (2019-2023).

Q. How much did FirstEnergy invest in the LTIIP so far?

A. The Company states it has invested a total of $892 Million - $343 Million in LTIIP I between 2016 and 2019 and $549 Million in LTIIP II between 2020 and 2024. The Company plans to invest an additional $137 Million in 2024 in LTIIP[16]. Hence the Company invested and plans to invest a total of $1.029 Billion in the LTIIP for the 9 years (2016-2024).

[14] Page 10, FE PA Statement No. 2.
[15] FE PA Response to OCA Interrogatory Set III, No. 19, Attachment A.
[16] Page 11, FE PA Statement No. 2.

Q. Has FirstEnergy's reliability performance improved after it started to invest in the LTIIP?

A. No. The Company's reliability performance decreased in the CAIDI metric but improved marginally in the SAIDI metric. Specifically, CAIDI decreased 34% over the past 5 years – on average 6% per year. Similarly, SAIDI decreased 9% over the past 5 years – on average 1.8% per year. Only the SAIFI metric showed improvement in the past 10 years since the LTIIP investments started in 2016[17]. Based on the table below, I conclude that SAIFI has improved by one percentage point but SAIDI has reduced by seven percentage points and CAIDI has reduced by eight percentage points per year during the past eight years. What this shows is that while the system average *frequency* of interruptions has improved, the *duration* of interruptions both at the system and customer level have significantly deteriorated.

Table 2 - Reliability Performance since LTIIP Investments

# of Years	Period	SAIDI	CAIDI	SAIFI
5	2019-2023	-9%	-34%	19%
5	2015-2019	-46%	-21%	-20%
8	2016-2023	-54%	-67%	8%

[17] FE PA Response to OCA Interrogatory Set III, No. 19, Attachment A.

Q. What estimated reduction in SAIFI does FirstEnergy attribute to LTIIP investments?

A. The Company does not have estimates for SAIFI benefits due to LTIIP I investments. The Company estimates the following SAIFI benefit due to LTIIP II investments[18]. I looked at FirstEnergy's historical SAIFI values to contrast the estimated SAIFI benefits. LTIIP II investments started in 2020, so, I compared 2020 SAIFI values to 2022 but didn't see any improvement in any Rate District[19]. Since the estimated SAIFI benefits are larger compared to the actual benefits seen in the past, it does not seem reasonable to me to assume that suddenly in the 9th year of LTIIP, the SAIFI metric will become positive. Hence, I am concerned that even with 9 years of LTIIP investments, the SAIFI values have either barely improved or gotten worse.

Table 3 - Estimated SAIFI Reduction due to LTIIP II by Rate District

Rate District	**SAIFI Reduction**
Met-Ed	0.55
Penelec	0.66
Penn Power	0.17
West Penn Power	0.38

[18] FE PA Response to OCA Interrogatory Set VI, No. 4(a).
[19] 12-Month Average Electric Reliability Indices for 2022 in 2022 Pennsylvania Electric Reliability Report, and 12-Month Average Electric Reliability Indices for 2020 in 2020 Pennsylvania Electric Reliability Report.

Q. What estimated reduction in SAIDI does FirstEnergy attribute to LTIIP II investments?

A. The Company estimates the following SAIDI benefit due to LTIIP II investments[20]. Similar to my research on SAIFI, I looked at historical SAIDI values in 2020 and 2022 to contrast the estimated SAIDI benefits due to LTIIP II investments. I compared 2020 SAIDI values to 2022 but didn't see any improvement in three Rate Districts – Met-Ed, Penelec and West Penn Power[21]. Hence, I am concerned that with 9 years of LTIIP investments, the SAIDI values have not improved either.

Table 4 - Estimated SAIDI Reduction due to LTIIP II by Rate District

Rate District	**SAIDI Reduction**
Met-Ed	78.89
Penelec	47.26
Penn Power	36.60
West Penn Power	64.12

Q. Does FirstEnergy meet the SAIDI Benchmark if the estimated benefits from LTIIP II investments occur?

A. No, only one out of the four Rate Districts meets its SAIDI Benchmarks if the estimated SAIDI benefits from LTIIP II investments occur. I am concerned that the estimated benefits

[20] FE PA Response to OCA Interrogatory Set X, No. 5(c).
[21] 12-Month Average Electric Reliability Indices for 2022 in 2022 Pennsylvania Electric Reliability Report, and 12-Month Average Electric Reliability Indices for 2020 in 2020 Pennsylvania Electric Reliability Report.

from LTIIP investments in the 9th year do not comport with historical benefits. As seen from the table below, comparing the Benchmark values and 12-month rolling SAIDI values for 2023 from the Joint 2023 Annual Reliability Report filed by the Company on April 30, 2024[22], the Company does not meet the Benchmark values except for Penn Power.

Table 5 – Rate Districts meet the SAIDI Benchmark due to LTIIP II

Rate District	**Benchmark**	**12-Month Actual [A]**	**SAIDI Benefit [B]**	**12-Month Actual With LTIIP II [A] minus [B]**
Met-Ed	135	256.86	78.89	177.97
Penelec	148	303.32	47.26	256.06
Penn Power	113	121.31	36.60	84.71
West Penn Power	179	285.16	64.12	221.04

Q. Did FirstEnergy provide estimated reductions in CAIDI due to LTIIP II?

A. No. When asked in discovery, FirstEnergy said, "The Predecessor Companies did not provide CAIDI reduction estimates as part of LTIIP II[23]."

[22] Page 6, Reliability Results, Joint 2023 Annual Reliability Report.
[23] FE PA Response to OCA Interrogatory Set X, No. 5(c).

Q. What do you conclude based on your review of estimated benefits in SAIFI and SAIDI due to LTIIP II?

A. I conclude that even after spending $892 million in the last 8 years, FirstEnergy has little system-wide reliability improvements to show from their LTIIP. Assuming FirstEnergy is going to make a big difference in the last year of LTIIP investments by spending another $137 million seems unrealistic to me. Hence, I conclude that LTIIP appears to have been largely ineffective in creating better reliability for FirstEnergy's customers.

Q. What are key performance indicators (KPI)?

A. FirstEnergy has set internal SAIDI key performance indicators to measure reliability performance in response to a Commission order for each Rate District[24]. These indicators are set annually. FirstEnergy states, "The threshold KPI goal is equal to the 12-month standard, the target KPI goal was established to meet benchmark over time in 2016 and has been the same since 2017, and the stretch KPI goal is the benchmark[25]." The 2024 values are shown in the table below[26].

[24] FE PA Response to OCA Interrogatory Set X, No. 3(a).
[25] Ibid
[26] FE PA Response to OCA Interrogatory Set V, No. 45.

Table 6 – 2024 Key Performance Indicators for SAIDI Comparison with 2023 Actuals

Rate District	**Threshold**	**Target**	**Stretch Goal/ Benchmark**	**12-Month Actual With LTIIP II**	**Conclusion**
Met-Ed	194	141	135	177.97	Meets Threshold only
Penelec	162	118	148	256.06	Does not meet Threshold
Penn Power	213	157	113	84.71	Meets Benchmark
West Penn Power	257	187	179	221.04	Meets Threshold only
FirstEnergy Company	219	160	152		

Q. Does FirstEnergy plan to set key performance indicators for enhanced vegetation management programs and storm damages?

A. No, FirstEnergy does not plan to set key performance indicators for the 10-year enhanced vegetation management program because these indicators are only set one year in

advance[27]. When asked if the Company set KPI goals for storm damage, FirstEnergy responded, "No. FirstEnergy does not set KPI goals for storm damages. See response to a. above, which explains that the Company does not have the flexibility to adjust Threshold, Target and Stretch KPI goals for storm damages."[28].

Q. What do you conclude based on your review of 2024 key performance indicators?

A. I conclude that FirstEnergy as a Company does not meet its SAIDI stretch goal in 2024 based on 2023 actual values.

Comparing the 2024 key performance indicators for SAIDI to the earlier table that showed which Rate District met the SAIDI benchmark metric with LTIIP II, I observe that FirstEnergy a) meets Benchmark in Penn Power, b) meets Threshold in Met-Ed and West Penn Power and c) does not meet its Threshold in Penelec. Hence, only Penn Power would be meeting the stretch goal. Similar to my earlier concerns regarding LTIIP investments, I am concerned that FirstEnergy's key performance indicators for 2024 assume that the Company's forecasts for SAIDI benefits will be met through the last year of the LTIIP. That does not seem reasonable to me based on FirstEnergy's first 8 years of performance.

[27] FE PA Response to OCA Interrogatory Set X, No. 3(c).
[28] FE PA Response to OCA Interrogatory Set X, No. 3(d).

Q. What are the major causes for FirstEnergy's past reliability performance?

A. The Company states that off-corridor trees are the major cause of vegetation-related outages[29]. Off-corridor trees are trees outside the distribution clearing zone[30]. The Company defines the distribution clearing zone as "a corridor measured at fifteen feet on either side of the pole line or to the established large tree edge[31]."

Finally, the Company states that "equipment failures, trees and line failures are still the largest contributors to the Company's CAIDI and SAIDI performance[32]."

Q. Which Rate Districts have the worst reliability performance due to tree failures?

A. In the table below, I have combined the data from the Company's data response[33] and "Outages by Cause" data for each Rate District from the Joint 2023 Annual Reliability Report[34].

As seen from the table, all four Rate Districts have tree failures, but West Penn Power has the highest SAIDI - 60% due to off-corridor tree failures.

[29] Page 9, FE PA Statement No. 2.
[30] FE PA Response to OCA Interrogatory Set VI, No. 14.
[31] Page 18, FE PA Statement No. 2.
[32] Page 10, FE PA Statement No. 2.
[33] FE PA Response to OCA Interrogatory Set VI, No. 3.
[34] Joint 2023 Annual Reliability Report - FirstEnergy Pennsylvania Electric Company on behalf of Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company and West Penn Power Company Docket No. M-2016-2522508.

Table 7 - Tree Failure SAIDI % by Rate District – 2023 data

SAIDI %	Met-Ed	Penelec	Penn Power	West Penn Power
Trees Off Row-Tree	42.63%	37.83%	42.88%	55.86%
Trees Off Row-Limb	10.28%	4.20%	11.09%	3.83%
Trees On Row	1.10%	0.22%	0.16%	0.53%
Trees - Sec/Service	0.64%	0.48%	0.85%	0.18%
Total	54.65%	42.73%	54.98%	60.40%

Q. Is the Company focused on prioritizing Rate Districts with the worst SAIDI % for off-corridor tree trimming?

A. No, there appears to be a misalignment between Rate Districts with historical worst reliability performance and future enhanced vegetation management program spending.

First, the Company appears to prioritize Met-Ed instead of West Penn Power based on Operations and Maintenance ("O&M") expenditure increases for the enhanced vegetation management program[35]. When asked why, FirstEnergy stated that the enhanced vegetation management program is intended to "reduce baseline SAIDI" not reduce SAIDI at a particular location or Rate District[36].

[35] FE PA Response to OCA Interrogatory Set VI, No. 7(a).
[36] FE PA Response to OCA Interrogatory Set X, No. 4.

Second, during the SAIDI key performance indicators discussion, I have shown that only Penn Power met the Benchmark value in 2023 – yet, Penn Power has an estimated O&M expenditure increase of 102%.

Third, in the discussion of the worst performing circuits later during this testimony, I show that based on the 5-year (2018-2022) historical data, three out of four Rate Districts – West Penn Power, Penelec and Met-Ed have repeat occurrences of substation and circuit pairs. But FirstEnergy is not prioritizing West Penn Power even though West Penn Power has repeated instances of worst performing circuits.

For these three reasons, I am concerned that there is a misalignment between FirstEnergy's future O&M expenditures and historical performance data.

Table 8 - O&M Expenditure Increase for Enhanced Vegetation Management Program

Rate District	**O&M Expenditure Percentage Increase**
Met-Ed	111%
Penelec	74%
Penn Power	102%
West Penn Power	66%
FirstEnergy Total	82%

Q. Do you have similar concerns with FirstEnergy's minimum regulatory required budget for Operations and Maintenance expenditures?

A. No, I don't. FirstEnergy states, "The minimum Regulatory Required Budget for each Rate District represents the cost the Company has calculated as necessary to achieve this minimum cycle clearance[37]." West Penn Power, Penelec and Met-Ed budgets rank higher compared to Penn Power[38]. Hence I don't have a concern with the minimum regulatory required budget, only with the estimated percentage increases in future O&M expenditures.

Q. How does the Company perform compared to other Electric Distribution Companies in Pennsylvania?

A. Historical data shows that the FirstEnergy companies consistently performed above the standard for the past 5 years (2018-2022) with two exceptions[39]. To be clear, this is not a good thing as performance above the standard indicates a higher number than the standard, which indicates the worst performance. Performance below the standard indicates a lower number, which indicates better reliability performance. The first exception is that during 2019-2022, Penn Power performed below standard in the SAIFI metric. The second exception is that during 2018-2020, both Penn Power (for SAIFI) and West Penn Power (for CAIDI and SAIDI) performed below standard. I have highlighted below the FirstEnergy Companies to show their relative performance compared to peers.

[37] FE PA Response to OCA Interrogatory Set X, No. 8(a).
[38] FE PA Response to OCA Interrogatory Set VI, No. 7(a).
[39] Three-Year Average Electric Reliability Indices for 2020-2022, 2019-2021, and 2018-2020 in 2022, 2021 and 2020, Appendix A – Electric Reliability Metrics, Pennsylvania Electric Reliability Reports respectively.

Table 9 - Historical 2020-2022 Reliability Metrics for all Pennsylvania EDCs

EDC	3-Year CAIDI	EDC	3-year SAIFI	EDC	3-year SAIDI
Penn Power (FE)	34.5%	Penelec (FE)	25.9%	Penelec (FE)	59.2%
Duquesne Light	30.3%	Pike County	16.9%	West Penn (FE)	30.1%
Penelec (FE)	25.6%	West Penn (FE)	6.3%	Met-Ed (FE)	29.7%
Met-Ed (FE)	24.8%	Met-Ed (FE)	3.4%	Penn Power (FE)	8.1%
West Penn (FE)	21.9%	Citizens'	-6.1%	Pike County	-2.3%
PECO	14.1%	UGI	-18.7%	Duquesne Light	-8.9%
PPL	1.7%	PPL	-19.1%	PPL	-17.1%
Wellsboro	-9.1%	Penn Power (FE)	-19.8%	Citizens'	-19.9%
Pike County	-13.9%	Wellsboro	-21.2%	PECO	-28.7%
Citizens'	-18.3%	Duquesne Light	-30.5%	Wellsboro	-29.9%
UGI	-18.8%	PECO	-38.5%	UGI	-35.7%

Table 10 - Historical 2019-2021 Reliability Metrics for all Pennsylvania EDCs

EDC	3-Year CAIDI	EDC	3-year SAIFI	EDC	3-year SAIDI
PECO	38.5%	Penelec (FE)	23.3%	Penelec (FE)	38.4%
Penn Power (FE)	33.0%	Pike County	11.4%	Met-Ed (FE)	38.2%
Met-Ed (FE)	25.8%	Met-Ed (FE)	9.2%	Penn Power (FE)	19.1%
Duquesne Light	19.0%	West Penn (FE)	2.6%	West Penn (FE)	4.3%
Penelec (FE)	9.6%	Citizens'	-4.5%	PECO	-2.0%
PPL	4.2%	Penn Power (FE)	-9.2%	Pike County	-4.9%
West Penn (FE)	2.1%	UGI	-15.4%	Duquesne Light	-15.0%
Pike County	-10.8%	PPL	-19.8%	PPL	-15.5%
UGI	-13.1%	Duquesne Light	-28.2%	UGI	-26.5%
Wellsboro	-15.2%	Wellsboro	-29.1%	Citizens'	-27.9%
Citizens'	-25.2%	PECO	-29.4%	Wellsboro	-40.9%

Table 11 - Historical 2018-2020 Reliability Metrics for all Pennsylvania EDCs

EDC	3-Year CAIDI	EDC	3-year SAIFI	EDC	3-year SAIDI
Penn Power (FE)	35.7	Penelec (FE)	20.1	Penn Power (FE)	24.8
PECO	17.6	Met-Ed (FE)	7.1	Met-Ed (FE)	24.3
Met-Ed (FE)	14.7	West Penn (FE)	1.4	Penelec (FE)	23.1
Pike County	3.6	Penn Power (FE)	-6.5	West Penn (FE)	-0.8
Penelec (FE)	2.6	UGI	-6.6	Pike County	-9.0
PPL	0.2	Citizens'	-13.6	UGI	-9.6
West Penn (FE)	-1.6	Pike County	-15.9	PECO	-13.6
Duquesne Light	-3.6	Wellsboro	-18.5	PPL	-21.1
UGI	-5.2	PPL	-21.9	Wellsboro	-32.8
Wellsboro	-18.4	PECO	-27.2	Duquesne Light	-33.3
Citizens'	-30.4	Duquesne Light	-30.5	Citizens'	-40.7

Q. Did you compute a composite SAIFI average value for FirstEnergy?

A. Yes, to assess how FirstEnergy is performing historically I calculated a composite SAIFI average. I took each table (Table 9,10 and 11) and added the negatives (worst performance) and the positives (better performance) for the FirstEnergy Rate Districts and came up with a number for each table. I then added those three numbers together and divided by 3 to arrive at a composite annual average of how far below the 3-year benchmark FirstEnergy is as a company. I get approximately 21.3 as a composite annual average. Mr. Mugrace is recommending that the Company's storm expenses balance be adjusted by 21.3% based upon the composite SAIFI average calculated here. This results in a reduction of the Company's storm expenses by $59,304,944 and a balance to be recovered of $149,127,056 amortized over a 5.3 year period consistent with Mr. Mugrace's recommended rate case normalization period[40].

Q. Why is it reasonable to adjust the Company's claimed storm expenses based on poor SAIFI performance?

A. FirstEnergy overall has continued outage issues from "priority trees" and overhanging vegetation. The Company has also failed to provide any new or innovative plans to deal with priority trees and has an admitted lack of attention to trimming overhanging vegetation. These vegetation management issues would necessarily lead to greater storm damage expenses. Accordingly, OCA witness Mugrace is using the 21.3% SAIFI

[40] Exhibit DM-20, OCA Statement No.1.

deficiency as an acceptable proxy basis to adjust the Company's claimed Storm Reserve balance.

Q. Are the small EDCs historical reliability performance better when compared to large EDCs in Pennsylvania?

A. Yes. Looking at the historical 2020-2022 reliability metrics for all Pennsylvania EDCs, in general, the small EDCs are performing better compared to large EDCs[41]. Specifically for CAIDI, which measures customer outage duration, the small EDCs performed much better than large EDCs during the 4-years (2019-2021).

Q. What are your conclusions based on your review of FirstEnergy's historical reliability performance compared to other EDCs in Pennsylvania?

A. I conclude that FirstEnergy's overall reliability performance was the worst as compared to other PA EDCs, in spite of almost $900 million in investments in LTIIP I and II so far and the current vegetation management program.

[41] "The large EDCs are Duquesne Light, Met-Ed, Penelec, Penn Power, PECO, PPL and West Penn. The Small EDCs are UGI, Citizens', Pike County and Wellsboro." Page 3, footnote 26, 2022 Pennsylvania Electric Reliability Report.

IV. ENHANCED VEGETATION MANAGEMENT PROGRAM

Q. How much is FirstEnergy seeking in this 2024 Base Rate Case for the enhanced vegetation management program?

A. FirstEnergy is seeking $1 Billion over 10 years ($100 Million per year for the next 10 years) for the enhanced vegetation management program[42], in addition to the $100 Million per year it spends on its current vegetation management program[43]. The $1 Billion estimate for the enhanced vegetation management program is in addition to the $100 Million per year for current vegetation program and $1 Billion FirstEnergy either spent or planned to spend on the LTIIP I and II capital improvements by the end of 2024[44].

Q. What is FirstEnergy proposing in the enhanced vegetation management program?

A. The Company states it will focus on "removing on- and off-corridor trees, removing overhang, and controlling brush in the distribution clearing zone in a more proactive manner" in the enhanced vegetation management program, compared to the current vegetation management program[45].

Specifically, the Company states that the enhanced vegetation management program will take two full cycles, and each cycle will include the following elements:

[42] Page 9, FE PA Statement No. 1.
[43] Page 18, FE PA Statement No. 2.
[44] Page 11, FE PA Statement No. 2.
[45] Page 19, FE PA Statement No. 2.

- **Removal of Priority Trees** – In the current vegetation management program, the Company states that it removes priority trees "that are identified in the field as an immediate threat to the safety of the public or the Company's facilities[46]." In the future, under the enhanced vegetation management program, the Company "proposes to enhance the scope of work to include priority trees that are not classified as an immediate threat but that may still impact the distribution system prior to the next regularly scheduled maintenance, especially during major events[47]."
- **Removal of on-corridor incompatible trees and brush** – In the current vegetation management program, the Company states, "on-corridor incompatible trees and brush are being pruned to meet cycle clearance only." But in the future, under the enhanced vegetation management program, the Company will "create and sustain a compatible, stable, and low growing plant community on the corridor, which will then compete with other plant species to limit the growth of additional incompatible tree species over time[48]."
- **Removal of vegetation overhanging the corridor** – In the current vegetation management program, the Company states, "most Zone 1 overhang has been identified and removed and continues to be maintained as part of the typical cycle vegetation management work[49]." Under the enhanced vegetation management program, most overhanging limbs in Zones 2 and 3 will be addressed[50].

[46] Page 20, FE PA Statement No. 2.
[47] Ibid
[48] Ibid
[49] FE PA Response to OCA Interrogatory Set VI, No. 12(b).
[50] Ibid

- **Widening** - In the current vegetation management program, it is my understanding that the Company conducts widening only for on-corridor trees within the distribution clearing zone[51] because it lacks easement rights and license arrangements for widening off-corridor trees[52]. Under the enhanced vegetation management program, the Company "will invest in the removal of trees along the corridor edge to establish a standard width for all Pennsylvania distribution circuits[53]." According to the Company, the minimum standard width is 30 feet for all distribution circuits[54] - "fifteen feet on either side of the pole line or to the established large tree edge[55]."

Q. In discovery did you ask the Company how they plan to track expenses related to the enhanced vegetation management program?

A. Yes. FirstEnergy stated that it is not planning to track expenses related to priority tree removal – a key component of the enhanced vegetation management program[56]. Similarly, FirstEnergy states that it is not planning to track expenses related to on-corridor incompatible trees and brush[57], vegetation overhanging the corridor[58] and widening[59].

[51] FE PA Response to OCA Interrogatory Set VI, No. 14(a).
[52] FE PA Response to OCA Interrogatory Set VI, No. 14(f).
[53] Page 20, FE PA Statement No. 2.
[54] FE PA Response to OCA Interrogatory Set VI, No. 13(a).
[55] Page 18, FE PA Statement No. 2.
[56] FE PA Response to OCA Interrogatory Set VI, No. 10(b).
[57] FE PA Response to OCA Interrogatory Set VI, No. 11(e).
[58] FE PA Response to OCA Interrogatory Set VI, No. 12(c).
[59] FE PA Response to OCA Interrogatory Set VI, No. 13(b).

Q. What is the duration of each full clearance cycle or inspection cycle?

A. FirstEnergy states that the clearance cycle is the same as the inspection cycle[60], and the length of each full clearance cycle is 4-5 years[61].

Q. How many full clearance cycles does the Company need for the enhanced vegetation management program?

A. FirstEnergy states it needs two full clearance cycles for the enhanced vegetation management program[62]. FirstEnergy adds that "Benefits will be achieved after the first cycle, but two cycles are necessary to achieve the full benefits of the program[63]." Since the length of each full clearance cycle is 4-5 years, I estimate that it takes 8-10 years for FirstEnergy to potentially achieve improvements in reliability performance from the enhanced vegetation management program. I am concerned that past spending on vegetation management has not yielded better reliability performance and in addition to that, FirstEnergy's customers must wait for 10 years to potentially see benefits from the enhanced program. Hence, I recommend detailed annual reporting for the enhanced vegetation management program should be undertaken by FirstEnergy to provide expense details and reliability improvements.

[60] FE PA Response to OCA Interrogatory Set VI, No. 8(a).
[61] FE PA Response to OCA Interrogatory Set VI, No. 8(b).
[62] FE PA Response to OCA Interrogatory Set VI, No. 8(d).
[63] FE PA Response to OCA Interrogatory Set X, No. 9.

Q. What are your specific recommendations for this proposed annual reporting?

A. FirstEnergy already provides quarterly and annual reliability reports. I am proposing additional data points and information be added to the existing reliability report.

First, I recommend the Company identify work performed in all four elements of the enhanced program for each worst performing circuit, under the "Remedial Action Planned or Taken" typically reported in Attachment A of the Company's annual reliability reports. The Company should also identify the expense for the work performed. For example, the Company should identify if a) priority trees were removed (property owner permission was needed yes/no), b) on-corridor incompatible trees and brush were removed (low growing plant added yes/no), c) vegetation overhanging the corridor was removed (Zone 1/2/3), and d) corridor widening work was conducted (Zone 1/2/3). And the expense for each element.

Second, if a worst performing circuit improved and did not make the list (worst performing 5% of circuits list for a year or more) anymore, the Company should provide the likely cause and expense for that improvement. For example, the Company should note if removal of priority trees after property owner's permission caused the improvement and what was the expense.

Finally, the Company should identify remedial actions taken due to storms and extraordinary storms. For example, it should be clearly specified "Repair damage caused by trees during an extraordinary storm" similar to the current reporting, "Repair damage caused by trees during a storm". I recommend that the Commission direct FirstEnergy to provide this level of detail in the annual report that I discuss below.

Q. What are priority trees?

A. FirstEnergy defines priority trees as "trees located adjacent to the corridor that are dead, dying, diseased, declining, structurally defective, severely leaning, or significantly encroaching where the electric facilities are at risk of arcing or failing should the tree or portions of the tree: (i) fall near or into the facilities, or (ii) grow towards or into Company facilities[64]." In general, priority trees are off-corridor trees[65] and "on-corridor is identified as the distribution clearing zone[66]". Additionally, "If a tree is within the distribution clearing zone, it is on-corridor. If it is outside the distribution clearing zone, it is off-corridor[67]."

Q. Are priority trees part of FirstEnergy's LTIIP I and II capital improvements?

A. No, priority trees are not part of FirstEnergy's LTIIP I and II capital improvements[68]. FirstEnergy states that only eligible property – property owned and operated by the Company was considered part of the scope of the LTIIP projects[69].

[64] FE PA Response to OCA Interrogatory Set VI, No. 11(a).
[65] FE PA Response to OCA Interrogatory Set VI, No. 10(d).
[66] FE PA Response to OCA Interrogatory Set VI, No. 14(a).
[67] Ibid
[68] FE PA Response to OCA Interrogatory Set VI, No. 10(d).
[69] Ibid

Q. Are priority trees part of the current vegetation management program?

A. Yes, priority trees are part of FirstEnergy's current vegetation management program, but there is a distinction. FirstEnergy alleges that it removes priority trees that are an immediate threat to reliability in the current program, but in the future program, FirstEnergy will expand tree removal to include additional priority trees.

Under the current vegetation management program, FirstEnergy is focused on "removing targeted priority trees and prioritizing the work that has the highest impact on reliability[70]." The Company "removes priority trees that are identified in the field as an immediate threat to the Company's facilities" under the current program[71]. And under the enhanced vegetation management program, FirstEnergy "would seek to remove additional priority trees than required to meet regulatory minimums, proactively remove additional on-corridor trees and brush in the distribution clearing zone, and remove overhang, all in order to improve reliability[72]."

Q. What is your main concern about the priority tree issue?

A. These priority trees continue to be the number one cause of outages, in almost all cases, for every one of the rate districts. In addition, I can reasonably conclude that since this is a fact, a large percentage of damage and thus expenses related to these priority trees is substantially adding to FirstEnergy's storm damage claims in this case. Yet, FirstEnergy seems to have no defined, specific plan as to how the Company is going to more

[70] FE PA Response to OCA Interrogatory Set VI, No. 2(b).
[71] FE PA Response to OCA Interrogatory Set VI, No. 10(a).
[72] FE PA Response to OCA Interrogatory Set VI, No. 2(b).

"proactively" target priority trees, except to seek an additional $100 million annually in vegetation management expense.

Q. Do you have additional concerns?

A. Yes. The Company was asked in discovery if a tree outside the right-of-way falls and damages FirstEnergy equipment, does the Company seek reimbursement from the owner of the tree or that person's insurance carrier for the damages? The Company responded that "As it relates specifically to off ROW trees, that ability to recoup is assessed by considering a number of factors including, but not limited to, amount of damage sustained, relative responsibility of the property or tree owner, whether insurance exists for the property owner, solvency of the property owner, and governmental immunity. The Company is not aware of an instance in the last three years where the Company has sought to recover damages to its equipment from an off-ROW tree[73]." It seems apparent that ratepayers are footing the total bill for damages and the inconvenience of outages caused by priority trees.

Q. What is your recommendation?

A. First, the Company should clarify exactly how they are going to more aggressively target priority trees, aside from simply seeking more funds from ratepayers. Second, any increased vegetation management expense that is authorized by the Commission in this case, should only be done in conjunction with annual reporting on specific expenses as discussed earlier. Third, for those areas where priority trees are the source of worst-performing circuits, the Company should evaluate battery options and/or undergrounding

[73] FE PA Response to OCA Interrogatory Set X, No. 12(b).

of troubled circuits. Details regarding a proposed annual reporting requirement are discussed in the next section.

Q. What changes is FirstEnergy proposing to the distribution clearing zones as part of the enhanced vegetation management program?

A. A distribution clearing zone is defined as "a corridor measured at fifteen feet on either side of the pole line or to the established large tree edge. Vertically, the corridor is measured to fifteen feet above the highest conductor attached to the pole or structure[74]." The Company states it is not proposing a change to the distribution clearing zone as part of the enhanced vegetation management program[75]. But FirstEnergy is expanding clearing overhanging limbs from Zone 1 to Zone 2 and 3 in the enhanced program[76].

Q. What are Zones 1, 2 and 3?

A. In the discovery, FirstEnergy states, "Zone 1 is the three-phase circuitry from the circuit breaker to the first protective device and serves the entire customer load. Zone 2 is the three-phase circuitry beyond the first protective device and serves a large percentage of customers. Zone 3 is the single-phase and two-phase circuitry and serves the smallest percentage of customers[77]."

[74] Page 18, FE PA Statement No. 2.
[75] FE PA Response to OCA Interrogatory Set VI, No. 9(a).
[76] FE PA Response to OCA Interrogatory Set VI, No. 12(b).
[77] FE PA Response to OCA Interrogatory Set VI, No. 12(b).

Q. Does FirstEnergy clear overhanging limbs in the current vegetation management program?

A. Yes, but only in Zone 1. In response to discovery, FirstEnergy states, "Per the current vegetation management program, most Zone 1 overhang has been identified and removed and continues to be maintained as part of the typical cycle vegetation management work[78]." Based on FirstEnergy's Zone 1 definition, I conclude the Company cleared overhanging limbs for parts of its distribution circuits, but not in either Zones 2 or 3.

Q. When did FirstEnergy first realize overhanging limbs were a recognized contributor to outages?

A. FirstEnergy knew overhanging limbs "are a recognized contributor to outages historically" and started tracking outages due to overhanging limbs in more detail starting in 2019[79]. If FirstEnergy started clearing overhanging limbs in Zones 2 and 3 in 2019, its reliability performance would likely have improved. Further, these overhanging limbs are also likely a contributor to increased storm damage expenses, much like the priority trees discussed earlier.

[78] Ibid.
[79] FE PA Response to OCA Interrogatory Set X, No. 14.

Q. Is FirstEnergy restricted by law to clear overhanging limbs in Zones 2 and 3?

A. Not that I can tell from the Company's filing. It is unlikely that FirstEnergy is restricted by law to clear overhanging limbs in Zones 2 and 3. FirstEnergy makes it clear that if a tree falls within the distribution clearing zone, it is considered on-corridor, and if the tree falls outside the distribution clearing zone, it is off-corridor[80]. FirstEnergy also notes that Zone 1 serves the entire customer load, Zone 2 serves a large percentage of customers and Zone 3 serves the smallest percentage of customers[81]. Under this criteria, I believe it is reasonable to assume that Zones 1, 2 and 3 are all part of the distribution clearing zone. Hence FirstEnergy has the right to trim overhanging limbs in Zones 2 and 3. FirstEnergy makes it clear that "off right-of-way vegetation management" is restricted by law[82]. Since clearing vegetation and overhanging limbs within the distribution clearing zone is within the purview of the Company, I conclude that overhanging limbs in Zones 2 and 3 are not off right-of-way and FirstEnergy is not restricted by law from clearing overhanging limbs in Zones 2 and 3.

Q. Are you providing a legal opinion as to the Company's ability to clear overhanging limbs in Zones 2 and 3?

A. No. I am not a lawyer, and I am not providing a legal opinion. My opinion is based solely on the information provided in the Company's filing as to what is included in the distribution clearing zone.

[80] FE PA Response to OCA Interrogatory Set VI, No. 14(a).
[81] FE PA Response to OCA Interrogatory Set VI, No. 12(b).
[82] FE PA Response to OCA Interrogatory Set VI, No. 14(a).

Q. What do you conclude based on your review of FirstEnergy's enhanced vegetation management program?

A. Based on my review of FirstEnergy's enhanced vegetation management program, I conclude that FirstEnergy does not have a specific plan for removing additional priority trees and does not have a reasonable explanation on why it didn't remove overhanging limbs in Zones 2 and 3. Hence, I recommend that some parts of the proposed enhanced vegetation management program budget should be reduced. The adjustment to the vegetation management program is addressed in the testimony of OCA witness Dante Mugrace. Mr. Mugrace is recommending that the Company be allowed to recover 50% of its proposed $92,846,000 expense related to vegetation management or an annual recovery of $46,423,000.

Q. What additional concerns do you have with FirstEnergy not planning to track expenses related to the enhanced vegetation management program?

A. I am concerned that FirstEnergy is seeking a $100 Million per year increase for an enhanced vegetation management program, but the Company does not plan on tracking expenses related to elements of this program. If expenses are tracked, then the Commission and other stakeholders will be able to review those expenses by category in a future case.

Q. What are your final concerns with FirstEnergy's enhanced vegetation management program timeline?

A. I am concerned that ratepayers will not see any potential improvement in FirstEnergy's reliability performance until 2034, ten years from now. It will be too late for course correction if elements of the enhanced vegetation management program are not working, especially after spending $1 Billion because FirstEnergy states it takes 2 clearance cycles, and each cycle is 4-5 years[83]. I recommend a 1-2 year cycle, and the Commission evaluates the success of the enhanced vegetation management program after 2 clearance cycles or approximately 2-4 years. And I also recommend that less of a budget for the enhanced vegetation management program should be adopted so that the enhanced program can be developed, reliability metrics targeted and assessed in 2-4 years. As mentioned earlier, Mr. Mugrace is recommending that the Company be allowed to recover 50% of its proposed $92,846,000 expense related to vegetation management or an annual recovery of $46,423,000.

Q. Is there any guarantee that FirstEnergy will meet its future reliability benchmarks?

A. No, there is no guarantee that FirstEnergy will meet its future reliability benchmarks 8-10 years into the future because the Company states, "vegetation management alone cannot guarantee the Company will meet future reliability benchmarks, but the estimated reliability improvements will increase the likelihood future reliability benchmarks will be

[83] FE PA Response to OCA Interrogatory Set VI, No. 8(d).

met[84]." Hence, the Commission should not approve the entire enhanced vegetation management program as proposed by the Company.

Q. Please summarize your overall recommendations for the enhanced vegetation management program?

A. My overall recommendations for the enhanced vegetation management program are:

- I recommend detailed annual reporting for the enhanced vegetation management program should be undertaken by FirstEnergy to provide expense details and reliability improvements as a part of its existing annual reliability report.
- I recommend the Company clarify exactly how they are going to more aggressively target priority trees, aside from simply seeking more funds from ratepayers.
- I recommend that any increased vegetation management expense that is authorized by the Commission in this case, should only be done in conjunction with annual reporting on specific expenses.
- I recommend, for those areas where priority trees are the source of worst-performing circuits, the Company should evaluate battery options and/or undergrounding of troubled circuits.
- I recommend a 1-2 year cycle, and the Commission evaluates the success of the enhanced vegetation management program after 2 clearance cycles or approximately 2-4 years.

[84] FE PA Response to OCA Interrogatory Set X, No. 2.

- Finally, I recommend that less of a budget for the enhanced vegetation management program should be adopted so that the enhanced program can be developed, reliability metrics targeted and assessed in 2-4 years.

V. WORST PERFORMING CIRCUITS

Q. What are worst performing circuits?

A. Worst performing circuits are 5% of the distribution circuits that have the highest customer outage minutes. The 5% of the distribution circuits are first selected by identifying the worst 20% of the circuits based on the highest circuit SAIFI. Then, those identified circuits are ranked based on SAIDI using only distribution-caused customer outage minutes[85].

Q. Based on the 5-year historical data, what trends have you observed?

A. Based on the 5-year (2018-2022) historical data, I observe that in three out of four Rate Districts – West Penn Power, Penelec and Met-Ed, there are repeat occurrences of substation and circuit pairs indicating that the Company's past tree trimming efforts did not have a significant impact.

For example, in West Penn Power, the following substation and circuit pairs appeared four out of five times in the worst performing circuits during the past 5 years[86] (2019-2023):

[85] Page 7, 2024 Quarterly Reliability Report for period ending March 31, 2024. Docket No. M-2023-3039027.
[86] Combining Attachment A data from FirstEnergy's 2019-2023 Annual Reliability Reports.

1. Rutan Substation, Bristoria circuit
2. Franklin Substation, Rogersville circuit
3. Waterville Substation, Waterville circuit.

Similarly, Penelec has the following substation and circuit pairs that appeared four out of five times:

1. Warren South Substation, 00220-41 circuit.
2. Grover Substation, 00527-63 circuit.
3. Russel Hill Substation, 00282-65 circuit.

Finally, Met-Ed has the following substation and circuit pairs that appeared two or more than two out of five times:

1. Barto Substation, 00706-1 circuit (three out of five times).
2. Angelica Substation, 00129-1 circuit (two out of five times).
3. Ottsville Substation, 00660-3 circuit (two out of five times).
4. Mountain Substation, 00743-4 circuit (two out of five times).
5. Barto Substation, 00705-1 circuit (two out of five times).

Q. What is your proposed solution for increasing the reliability performance of worst performing circuits during unplanned outages?

A. I propose the Company study installing batteries at the worst performing circuit locations where a substation-circuit pair has recurred equal to and greater than twice during the past five years. FirstEnergy should provide a report to the Commission and all stakeholders

annually on this issue as discussed earlier. Based on the locations where historically worst performing circuits are occurring, I conclude that the likelihood of unplanned outages is higher at these locations. As I have shared earlier, there are multiple locations in each of the three Rate Districts where worst performing circuits are located.

Q. What is your specific recommendation for this report?

A. I have the following recommendation for this report.

First, for each worst performing circuit, FirstEnergy should provide a table that identifies the number of customers affected and the customer minutes in blocks of 2-hour increments – up to 2/4/6/8/greater than 8-hour blocks. For example, in West Penn Power, Rutan Substation, Bristoria circuit, the Company should identify x number of customers were interrupted for less than or equal to 2-hours, y number of times.

Second, FirstEnergy should identify the time lapse between customer interruptions at each worst performing circuit. For example, for the Bristoria circuit mentioned above, the Company should specify the amount of time (in hours) elapsed between the 2-hour outage.

Third, FirstEnergy should identify the frequency of the customer interruptions in a 24-hour time period for each worst performing circuit. For example, for the Bristoria circuit, twice a customer interrupted during a 24-hour time period.

Finally, FirstEnergy should list the viability of a 2/4/6/8-hour battery by following the proposed criteria. For example, if a customer served by the Bristoria circuit was interrupted twice during a day in January for 2 hours and there was more than 2 hour's time lapse

between each of the interruptions, there is a 100% likelihood that a 2-hour battery would work. FirstEnergy should summarize the likelihood of 2/4/6/8 hours batteries for each customer served by each worst performing circuit as a part of their annual reliability report.

Q. How does installing batteries at the worst performing circuits increase the reliability performance?

A. Large batteries installed at each troubled spot will discharge when the distribution circuit is down due to an unplanned outage like a storm. As a result, the customers will have battery power and won't experience loss of power from an outage, which reduces the customer outage minutes, i.e., CAIDI. If a customer is inconvenienced for 120 minutes without a battery, with a battery, the customer experiences an outage for only 60 minutes when the battery discharges for 60 minutes. Additionally, adding a battery reduces the duration of the outage, i.e., SAIDI. Depending upon the frequency of outages, if outages are spread over some time, giving the batteries time to charge, installing batteries can also have an impact on the frequency of outages, i.e., SAIFI. Hence, installing batteries at the locations where there is a recurrence of worst performing circuits improves all three reliability performance metrics – CAIDI, SAIDI and SAIFI.

Q. Is there a precedence for the Commission approving batteries at worst performing circuit locations?

A. Yes, the Commission has approved installing batteries at worst performing circuit locations in 2021 for one of the Pennsylvania utilities. Chairman Gladys Brown Dutrieuille stated,

"The battery storage project will be administered on one of UGI's worst performing circuits." as part of the UGI Utilities, Inc. – Electric Division's Joint Settlement[87]. Hence, installing batteries to improve the reliability performance of worst performing circuits was approved previously by the Commission.

Q. Is there a precedence for batteries as a solution for outages at a Pennsylvania utility?

A. Yes, Duquesne Light Company has a "Hookstown Battery Energy Storage System Project" for planned outages. Duquesne states "To increase reliability in the Hookstown area, DLC will install its first Battery Energy Storage System (BESS) to alternatively power up to one hundred customers[88]." Hence, there is a precedence for batteries as a solution for planned outages.

Q. What do you conclude based on your review of FirstEnergy's worst performing circuits?

A. Since historical data from 2018-2022 shows recurring issues with specific substation-circuit pairs in West Penn Power, Penelec, and Met-Ed Rate Districts, I conclude that FirstEnergy's past tree trimming efforts were ineffective. To improve reliability, I recommend FirstEnergy study installing batteries at these problematic locations. OCA Witness Mugrace and I are recommending 50% of the Company's vegetation management be allowed in rates. This results in a disallowance of $46,423,000 from the Company's

[87] Opinion and Order issued October 28, 2021. Docket # R-2021-3023618.
[88] https://duquesnelight.com/service-reliability/infrastructure-projects

proposed balance of $92,846,000[89]. A study should be conducted to evaluate the installation of batteries where worst performing circuits are located and reported on as part of the Company's annual reliability reports as I discussed above. Batteries would reduce customer outage durations and improve reliability metrics during outages. Precedents for such installations exist, including approvals for UGI Utilities, Inc. and Duquesne Light Company projects.

VI. UNDERGROUNDING DISTRIBUTION CIRCUITS

Q. Why are undergrounding distribution circuits relevant for improving reliability performance?

A. Undergrounding a distribution circuit removes the need for tree trimming. Since Off Right-Of-Way trees are the major cause of the Company's reliability performance, undergrounding eliminates the major reason and leads to better reliability performance.

Q. Has the Company pursued undergrounding distribution circuits?

A. Yes, FirstEnergy states the Company has pursued underground where trouble spots occur, but the Company states it is unable to provide specific locations, "the Company is unable to provide specific locations for any undergrounding work where trouble spots occur[90]." When asked why, the Company states, "The current FE PA work management system does

[89] Exhibit DM-14, OCA Statement No.1.
[90] FE PA Response to OCA Interrogatory Set VI, No. 5.

not disaggregate projects in such a way as to make it clear why a project was undergrounded where trouble spots occur. A project can be undergrounded for a variety of reasons (reliability, aesthetics, trouble spot, customer request, etc.) and the system does not track the reason[91]."

Q. Do you find this response satisfactory?

A. No. Undergrounding a distribution circuit is completely different than the normal aerial work the Company performs. As discussed below, the Company should provide specific information on any underground projects it has completed.

Q. What are trouble spots and how are they determined?

A. FirstEnergy defines trouble spots as "a general term characterized as a geographic area experiencing repeat outages or where assessing and/or restoring overhead facilities is difficult[92]." Vegetation management is one of the factors in determining whether a location is a trouble spot, "Typically, a trouble spot is identified due to access issues found during a post restoration event review by Operations, during a circuit review by Engineering, or during Vegetation Management maintenance[93]." Hence, trouble spots are locations where repeat outages occur due to vegetation management, and undergrounding can be a potential solution.

[91] FE PA Response to OCA Interrogatory Set X, No. 6 (a).
[92] FE PA Response to OCA Interrogatory Set X, No. 6 (b).
[93] FE PA Response to OCA Interrogatory Set X, No. 6 (c).

Q. Are trouble spots the same as worst performing circuits?

A. FirstEnergy states, "Trouble spots are not the same as Worst Performing Circuits. Typically, trouble spots are not going to encompass an entire circuit. Worst Performing Circuits could have trouble spots in them, but the entire circuit would not be a trouble spot[94]." I surmise from this explanation that undergrounding an entire circuit may not be needed. Only the length of the circuit that is a "trouble spot" should be undergrounded.

Q. Has the Commission ordered FirstEnergy to pursue selective undergrounding in LTIIP II?

A. Yes, the Commission has ordered FirstEnergy to "file in subsequent Annual Asset Optimization Plans (AAOPs) to specifically identify and provide detailed information regarding the cost and expected benefits for any selective undergrounding projects that are undertaken in the course of LTIIP-II[95]." It is not clear to me when FirstEnergy will provide the detailed information about selective undergrounding to the Commission. In rebuttal testimony in this case, the Company should provide specific and detailed information on undergrounding work that it has performed on its distribution system and the results as to any improved reliability for those areas.

[94] FE PA Response to OCA Interrogatory Set X, No. 6 (d).
[95] Opinion and Order issued January 16, 2020. Docket Nos. P-2019-3012618, P-2019-3012617, P 2019-3012615, and P-2019-3012614.

Q. What do you recommend regarding undergrounding distribution circuits?

A. I recommend undergrounding be done on selective circuits similar to how FirstEnergy normally repairs or upgrades its distribution circuits. The Company should include information on any of its undergrounding efforts as a part of their annual reliability report to the Commission. This information should specifically provide the circuit/circuits involved, the reason why undergrounding was considered or deployed, and the resulting reliability improvement on that circuit as that information can be provided in the annual reports.

VII. STORM DAMAGE EXPENSES

Q. What is the role of trees in storm damage expenses?

A. There is a direct correlation between vegetation and storm damage expenses. FirstEnergy admits that "Storm expenses decrease when the volume of vegetation is reduced[96]." And I observed 16 instances of "Repair damage caused by trees during a storm" and "Repair damage caused by trees during a storm (Limb)" in the Remedial Action Planned or Taken reports for the Worst Performing Circuits from the Joint 2023 Annual Reliability Report filed by the Company on April 30, 2024[97]. For some of these worst-performing circuits, the off-ROW (Right-of-Way) trees accounted for up to 94% of outages by cause[98]. Additionally, FirstEnergy states, "Post-storm circuit patrols target the areas with high tree-

[96] FE PA Response to OCA Interrogatory Set X, No. 11
[97] Attachment A, Joint 2023 Annual Reliability Report.
[98] Penelec Rate District, Seward substation, 00075-11 circuit, Ibid

related outages. Circuit patrols identify trees damaged in a storm that may eventually lead to a future outage. Once identified, the tree is removed[99]." So, vegetation has a direct relationship to storm damages, and off-ROW trees account for most of the outages due to storms. Hence, I conclude that off-ROW trees have significantly increased storm damage expenses.

Q. How much extraordinary storm damage expenses did FirstEnergy companies defer?

A. Based on FirstEnergy's petitions since the last rate case in 2016, FirstEnergy has deferred $85.094 Million in extraordinary storm damage expenses[100].

Q. Is FirstEnergy the only large EDC who filed for deferral accounting treatment due to extraordinary storm damage in Pennsylvania since 2016?

A. After some research, I am concerned that FirstEnergy is the only large EDC that has filed for deferral accounting treatment due to extraordinary storm damage. Pike County Light & Power Company, a small EDC has filed for similar deferral accounting treatment for $1 Million in 2018[101]. In this same period of time, 2016-2024, FirstEnergy filed eight different petitions for deferral accounting treatment based on extraordinary storm damage.[102]

[99] Page 3, Ibid
[100] FE PA Exhibit PML-1, Page 20 of 63.
[101] Docket No. P-2018-3001395
[102] FE PA Exhibit PML-1, Page 20 of 63.

Q. But isn't every EDC's service territory different?

A. Yes, every EDC's service territory is different. And I am aware that weather does not impact all the service territories in the same way. But the sheer number of FirstEnergy's deferral accounting treatment petitions due to extraordinary storm damage, and the apparent lack of any other large PA EDCs submitting similar petitions, is very concerning. Hence I conclude that this unprecedented amount of claimed damage points to the fact that FirstEnergy's vegetation management and maintenance is lacking.

Q. Do you believe extraordinary storm damage expense deferral amounts would be reduced if FirstEnergy had taken proactive steps in the removal of priority trees and overhanging limbs since 2016?

A. Yes, if FirstEnergy had taken proactive steps in the removal of priority trees since LTIIP was first established in 2016, the extraordinary storm damage expense deferral amounts would have been reduced. Because off-corridor trees – priority trees and overhanging limbs had a major impact on storm damage expenses, according to the historical reliability data[103].

[103] Multiple instances of off-ROW trees and off-ROW limbs as the cause during storms for worst performing circuits, Attachment A, Joint 2023 Annual Reliability Report.

Q. What do you recommend regarding FirstEnergy's deferral accounting treatment due to extraordinary storm damage?

A. I recommend an appropriate adjustment to the $85 Million FirstEnergy is seeking for extraordinary storm damages. OCA witness Dante Mugrace is recommending a balance of $59,431,454 amortized over a 5.3 year period. The Company began with a balance of $85,094,000. Mr. Mugrace reduced that balance by $9,577,540 (pending extraordinary storm petition at the Commission) to arrive at a balance of $75,516,460. Mr. Mugrace calculated 21.3% of the balance. This 21.3% is the composite annual SAIFI average mentioned earlier in my testimony. With the 21.3% adjustment, he arrived at a balance adjustment of $16,085,006. Finally, Mr. Mugrace reduced the $75,516,460 by $16,085,006 to arrive at a level of $59,431,454 shown on Exhibit DM-20, OCA Statement 1.

Q. What are your concerns with FirstEnergy's estimated reduction in future storm damages?

A. I am concerned that FirstEnergy is estimating only a 3 percent reduction in storm damage expenses. And I am concerned that this estimated reduction is expected to start in year 5. FirstEnergy estimates that the enhanced vegetation management program "will reduce future storm expenses an estimated $2 to $3 million per year, starting in year 5.[104]" This reduction is approximately 3 percent per year, "assuming similar weather patterns.[105]" This

[104] FE PA Response to OCA Interrogatory Set VI, No.10 (c).
[105] FE PA Response to OCA Interrogatory Set X, No.11 (a).

note about assuming similar weather patterns leads me to be concerned that even that 3 percent reduction in year 5, i.e., 2029 is speculative.

Q. What concerns do you have with FirstEnergy not planning to evaluate expenses related to storm damages until 2029?

A. I have two additional concerns.

First, when asked about the Company's plan if future storm expenses are not reduced starting in year 5, the Company states that it plans to "reevaluate the major components of the Enhanced Program to determine why storm expenses are not being reduced[106]." Waiting until 2029 after spending $500 Million to evaluate whether the major components of the enhanced vegetation management program are working does not make sense to me. I am concerned that it may be too late for the Company to reverse course or add new components to the enhanced vegetation management program if it waits 5 years.

Second, similar to my concerns for the enhanced vegetation management program, I am concerned that FirstEnergy is seeking recovery of deferred storm damage expenses since the last rate case in 2016 without a plan on how elements of the enhanced vegetation management program will be effective in reducing future storm damages. FirstEnergy claims tracking removal of priority trees, on-corridor incompatible trees and brush and overhanging vegetation, "compared to other types of work during an emergency restoration storm event would unnecessarily delay storm restoration activities due to additional

[106] FE PA Response to OCA Interrogatory Set X, No.11 (c).

tracking, lessen efficiency, and increase cost[107]." I am not suggesting FirstEnergy track storm damage expenses during an emergency restoration storm event. I am suggesting FirstEnergy track or estimate how each component of the enhanced vegetation management program has an impact on future storm damage expenses.

Due to these two concerns, I recommend the Company evaluate annually whether the enhanced vegetation management program is working and document the evaluation as a part of their annual reliability report as discussed above.

Q. Please provide a summary of your conclusions based on the review of FirstEnergy's storm damage expenses.

A. First, I conclude that there is a direct and significant correlation between vegetation, particularly off-ROW (Right-of-Way) trees, and storm damage expenses. The observations and statements made by FirstEnergy indicate that reducing the volume of vegetation directly leads to decreased storm expenses. The high percentage of outages caused by off-ROW trees (up to 94% in some circuits) and the frequent need for repairs due to tree-related damage during storms underline the critical impact of vegetation on storm damage costs.

Second, FirstEnergy plans to wait until 2029 to reevaluate the major components of the enhanced vegetation management program if future storm expenses are not reduced. This five-year delay could result in spending an additional $500 million before making

[107] FE PA Response to OCA Interrogatory Set X, No. 10, 13, 15 and 16.

necessary adjustments, potentially making it too late to reverse course or implement new measures effectively.

Third, I recommend that FirstEnergy implement annual evaluations of the enhanced vegetation management program. Annual evaluations would allow the company to assess the program's effectiveness in reducing storm damage expenses more promptly and make timely adjustments as needed. Regular evaluations would also provide a clearer understanding of how specific actions, such as the removal of priority trees, contribute to overall cost savings and reliability improvements.

Finally, I recommend an appropriate adjustment to the $85 Million FirstEnergy is seeking for extraordinary storm damages, as discussed in OCA witness Dante Mugrace's testimony.

VIII. SUMMARY

Q. Please summarize your concerns.

A. I have the following concerns:

- I am concerned that even with 9 years of LTIIP investments, the SAIFI values have either barely improved or gotten worse.
- I am concerned that with 9 years of LTIIP investments, the SAIDI values have not improved either.
- I am concerned that the estimated benefits from LTIIP investments in the 9th year do not comport with historical benefits.

- I am concerned that FirstEnergy's key performance indicators for 2024 assume that the Company's forecasts for SAIDI benefits will be met through the last year of the LTIIP. That does not seem reasonable to me based on FirstEnergy's first 8 years of performance.
- I am concerned that there is a misalignment between FirstEnergy's proposed future O&M expenditures and historical performance data.
- I am concerned that past spending on vegetation management has not yielded better reliability performance and in addition to that, FirstEnergy's customers must wait for 10 years to potentially see benefits from the enhanced program.
- I am concerned that FirstEnergy is seeking a $100 Million per year increase for an enhanced vegetation management program, but the Company does not plan on tracking expenses related to elements of this program.
- I am concerned that ratepayers will not see an improvement in FirstEnergy's reliability performance until 2034, ten years from now.
- I am concerned that FirstEnergy is estimating only a 3 percent reduction in storm damage expenses. And I am concerned that this estimated reduction is expected to start in year 5. I am concerned that it may be too late for the Company to reverse course or add new components to the enhanced vegetation management program if it waits 5 years to see the 3 percent reduction in storm damage expenses.
- I am concerned that FirstEnergy is the only large EDC that has filed for deferral accounting treatment due to extraordinary storm damage between 2016 and 2024.
- I am concerned that FirstEnergy is seeking recovery of deferred extraordinary storm damage expenses since the last rate case in 2016 without a plan on how elements

of the enhanced vegetation management program will be effective in reducing future storm damages.

Q. Please summarize your conclusions.

A. My testimony draws the following conclusions:

- I conclude that FirstEnergy's System Average Interruption Frequency Index (SAIFI) has improved by one percentage point per year during the past eight years (2016-2023).
- I conclude that even after spending $892 million in the last 8 years, FirstEnergy has little improvements to show from LTIIP.
- I conclude that LTIIP appears to have been largely ineffective in creating better reliability for FirstEnergy's customers.
- I conclude that FirstEnergy as a Company does not meet its SAIDI stretch goal in 2024 based on 2023 actual values.
- I conclude that FirstEnergy's past reliability performance compared to other PA electric distribution companies was the worst in spite of investments in LTIIP I and II and the current vegetation management program.
- I conclude that overhanging limbs in Zones 2 and 3 are not off right-of-way and FirstEnergy is not restricted by law from clearing overhanging limbs in Zones 2 and 3.

- Based on the locations where historically worst performing circuits are occurring, I conclude that the likelihood of unplanned outages is higher at these locations.
- I conclude that FirstEnergy's past tree trimming efforts were ineffective.
- I conclude that off-ROW trees have significantly increased storm damage expenses.
- I conclude that there is a direct and significant correlation between vegetation, particularly off-ROW (Right-of-Way) trees and off-ROW limbs, and storm damage expenses.
- I conclude that the unprecedented amount of claimed damage points to the fact that FirstEnergy's vegetation management and maintenance is lacking.

Q. Does this conclude your testimony?

A. Yes, it does.

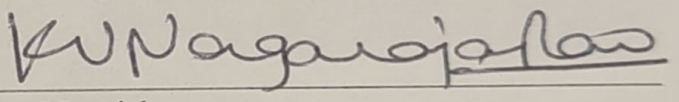
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Rao Konidena, hereby state that the facts above set forth in my Direct Testimony, OCA Statement 7, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: June 25, 2024

Signature: 

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Company	**)**	

SURREBUTTAL TESTIMONY OF

RAO KONIDENA

ON BEHALF OF THE

COMMONWEALTH OF PENNSYLVANIA

OFFICE OF CONSUMER ADVOCATE

August 8, 2024

Q. Please state your name and business address.

A. My name is Rao Konidena. My business address is Rakon Energy LLC, Roseville, MN 55113.

Q. Have you previously submitted testimony in this docket?

A. Yes. I submitted my Direct Testimony on June 25, 2024, which was marked as OCA Statement No. 7. My qualifications and experience are attached to my Direct Testimony.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my Surrebuttal Testimony is to address the July 22, 2024, Rebuttal Testimonies of Company witnesses Mr. Hawkins (Statement No. 12-R) and Mr. De Stigter (Statement 14-R). To the extent that I do not respond to or address a particular issue or argument, I defer to my Direct Testimony on those issues.

Q. Mr. Hawkins sets out several themes in the introductory part of his rebuttal testimony, including that you have misinterpreted the reliability metrics, increased storm activity has negatively impacted FirstEnergy's reliability performance, and that your recommendations are contradictory in alleging that the Company needs to do a better job on vegetation management and yet you recommend reducing the additional revenues that the Company is seeking for its enhanced vegetation management plan. How do you respond?

A. I disagree with many of Mr. Hawkins' assertions regarding my portrayal of the reliability metrics, as further discussed below. More importantly, however, the facts remain that FirstEnergy's reliability performance is poor, and it has been poor for some time. Increased storm activity can of course be a factor, but it is not reasonable to believe that the weather in the Company's service territories is so different from the rest of Pennsylvania that weather alone is driving the Company's poor numbers. I also disagree that my recommendations are contradictory.

Q. How is your recommendation to disallow 50% of the Company's enhanced vegetation management plan consistent with your recommendations that the Company needs to focus on vegetation management?[1]

A. As my Direct Testimony shows, the Company has not done a very good job of dealing with vegetation. This is exemplified by the lack of attention or focus on overhanging limbs and off-ROW trees. Based on past performance, it is not reasonable to agree to a ten-year plan with approximately $100 million more in annual spending. My recommendation is to allow a reasonable level of revenue that would allow the Company to focus its efforts for the next several years, provide detailed reporting, and then reevaluate the Company's reliability metrics in its next rate case, which as I understand from the Company's testimony they plan to file in three years.

Q. Do you have any further response to Mr. Hawkins' introductory comments?

A. Yes. Throughout the rebuttal testimony there is a common thread that the Company cannot do a better job on controlling vegetation without additional funding, as current revenues are simply insufficient to address the need. As this vegetation/reliability problem did not develop overnight, I fail to understand why the Company did not seek to file a general base rate case before now. The Company's last rate case was in 2016. This fact only serves to reinforce my recommendation that authorizing a ten-year enhanced vegetation management plan with an additional $100 million annual spend is a drastic response and simply not reasonable.

Q. Aside from Mr. Hawkins' introductory remarks, are there specific areas that he addresses in his rebuttal that you would like to respond to?

A. Yes. Beginning at page 16 of his rebuttal Mr. Hawkins begins to focus on key areas of my direct testimony, starting with an allegation that I am claiming the "Company is performing inefficient or unnecessary vegetation management work or is failing to comply with the PUC's regulations."

[1] See OCA witness Mr. Mugrace's Surrebuttal Testimony page 21-22.

Q. How do you respond?

A. I am not claiming that the Company is performing unnecessary vegetation work or that the Company is not complying with PUC regulations. My Direct Testimony shows that the Company's past vegetation management efforts have not been effective in creating better reliability for its customers. The Company's poor reliability metrics speak for themselves. Moreover, the Company's record of filing eight different deferral petitions for extraordinary storm damage over the last eight years, when no other major Pennsylvania EDC has filed such petitions, lends support to my conclusions that FirstEnergy has not done a good job in performing vegetation management even though ratepayers are currently paying for its existing budget of over $100 million a year for these activities.

Q. Do you have an issue with the "Incremental Cost of the Enhanced Program" as Mr. Hawkins mentions?[2]

A. I still have some concerns. In my Direct Testimony, I raised a concern that "there is a misalignment between FirstEnergy's future O&M expenditures and historical performance data".[3] I also noted that "I don't have a concern with the minimum regulatory required budget, only with the estimated percentage increases in future O&M expenditures".[4] Mr. Hawkins's rebuttal testimony provided the same table provided in response to OCA Interrogatory Set IV, No. 10. Still, Mr. Hawkins's rebuttal testimony does not directly address my three concerns stated in my Direct Testimony:

- Met-Ed is prioritized ahead of West Penn Power, even though West Penn Power has the highest SAIDI – 60% due to off-corridor tree failures.
- Penn Power has a 102% increase in O&M Expenditures even though it met the SAIDI Benchmark in 2023.
- West Penn Power is not prioritized ahead of the remaining three Rate Districts even though West Penn Power has substation and circuit pairs that appear four out of five times in the worst performing circuits during the past five years (2019-2023).

[2] FE PA Statement No. 12-R at 18.
[3] OCA Statement No. 7 at 23.
[4] Ibid.

Q. How do you respond to Mr. Hawkins's assertion that you have "not taken into account any information that is specific to the field conditions and risks that may be present in any of the Rate Districts and has simply assumed the needs of each Rate District can be handled in the same manner"?[5]

A. I see Mr. Hawkins's point that each Rate District is different with respect to field conditions. Mr. Hawkins's explanation "the rural field conditions in the Penelec Rate District and the West Penn Rate District require more specialized equipment to perform work on the more challenging terrain" explains why Penelec and West Penn have higher minimum regulatory required budget, but it does not help answer any of my above three concerns.[6,7]

Similarly, Mr. Hawkins's explains "the Company must first prioritize obtaining the necessary regulatorily required clearances by trimming, then the Company can apply any remaining funds to additional priority tree, on-corridor tree and brush removal, and overhanging limb control." According to this explanation, both Penelec and West Penn should have better SAIDI % due to tree failures because they have a higher minimum regulatory required budget. But, only Penelec has a better SAIDI % compared to West Penn, even though FirstEnergy prioritized them first. Hence, Mr. Hawkins's explanations do not address my concerns regarding the incremental cost of the enhanced program.

Q. How do you respond to Mr. Hawkins's rebuttal testimony that your testimony stating the Company "does not plan to track expenses related to the enhanced vegetation management program is simply false"?[8]

A. Mr. Hawkins clarifies the Company's earlier responses to OCA Interrogatories Set VI, No. 10(b), 11(e), 12(c) and 13(b). For example, OCA Interrogatory Set VI, No. 10(b) asked, "What percentage in storm damage expenses do priority trees contribute?" And the Company responded, "The Company does not track expenses associated with specific types of vegetation, such as priority trees".[9] Taking this response literally, I stated in my

[5] FE PA Statement No. 12-R at 20.
[6] FE PA Statement No. 12-R at 21.
[7] Response to OCA Interrogatory Set IV, No.10.
[8] FE PA Statement No. 12-R at 22.
[9] Response to OCA Interrogatory Set VI, No. 10(b).

Direct Testimony, "FirstEnergy stated that it is not planning to track expenses related to priority tree removal – a key component of the enhanced vegetation management program".[10] I now understand that the Company plans to track expenses under the enhanced vegetation management program related to priority trees, on-corridor incompatible trees and brush, vegetation overhanging the corridor and widening "The Company does track vegetation maintenance expenses under its existing maintenance program and will specifically track expenses related to the enhanced vegetation management program".[11]

Q. How do you respond to Mr. Hawkins's assertions that contradict your claim that it takes 10 years to experience the benefits of the enhanced program?

A. The Company's response to OCA Interrogatory Set XXIV, No. 3 supports my claim that it takes 10 years, perhaps more than 10 years to fully experience the benefits of the enhanced vegetation management program. I don't disagree that there could be "incremental" improvements along the 10-year journey of the enhanced vegetation management program.

In my Direct Testimony, I stated, "FirstEnergy's customers must wait for 10 years to potentially see benefits from the enhanced program".[12] Mr. Hawkins's rebuttal testimony asserts that "incremental improvements will occur over time as threatening vegetation is removed".[13] Also, Mr. Hawkins refers to Mr. De Stigter's rebuttal testimony stating that it shows that incremental improvements occur over time.

I note that "Table 1 Enhanced Vegetation Management BCA Scenario Results" in Mr. De Stigter's rebuttal testimony shows some incremental "estimated" improvements over the 10 years, but the break-even point (estimated benefits equal costs) does not occur until year 5. Mr. De Stigter also states, "the precise decrease in vegetation outages is challenging to estimate".[14] Hence, we don't know when these incremental improvements actually occur.

[10] OCA Statement No. 7 at 30.
[11] FE PA Statement No. 12-R at 22.
[12] OCA Statement No. 7 at 31.
[13] FE PA Statement No. 12-R at 23.
[14] FE PA Statement No. 14-R at 7.

Later in my surrebuttal testimony I have a detailed response to Mr. De Stigter's rebuttal testimony.

To understand when these improvements occur, OCA asked the Company in Interrogatory Set XXIV, No. 3, "Please specify if "over time" refers to the 10-year enhanced vegetation program management duration or another program duration." The Company responded, "Over time" refers to both the 10-year duration of the enhanced vegetation program, as well as the several years immediately following. Reliability improvements typically continue to be fully realized following completion of work and may take some time following performance of all work to translate to actual experienced improvements that reflect in performance metrics".[15] Hence, some "incremental" improvements occur along the way but most of the benefits from the enhanced vegetation management program do not occur until year 10 and beyond.

Q. How do you respond to Mr. Hawkins's assertion that you are incorrect in stating that FirstEnergy does not have a defined, specific plan to target priority trees proactively?[16]

A. It is still not clear from Mr. Hawkins's explanation that FirstEnergy has a defined, specific plan to target priority trees proactively because "priority trees are off-corridor trees owned by landowners, not the Company, and are therefore not eligible property, as defined by statute" based on the Company's response to OCA Interrogatory Set VI, No, 10 (d).[17] Mr. Hawkins states that "No process changes are necessary under the enhanced vegetation management program other than to expand the scope of removal to target the removal of additional off-corridor priority trees and overhanging limbs".[18] However, a process change is likely needed for properties not owned by the Company, specifically how FirstEnergy will seek non-eligible property owners' approval to clear priority trees in the enhanced vegetation management program since off-ROW trees are the number one cause of outages.

[15] Response to OCA Set XXIV, No. 3.
[16] FE PA Statement No. 12-R at 24.
[17] Response to OCA Set VI, No. 010 (d).
[18] FE PA Statement No. 12-R at 25.

Mr. Hawkins's rebuttal testimony does not explain that specific aspect of the priority tree removal.

Q. How do you respond to Mr. Hawkins's claims that your concerns regarding the impacts and costs of the priority trees are inaccurate"[19]

A. I disagree with Mr. Hawkins because even after multiple OCA Interrogatories, it is still unclear to me whether the Company has a plan to remove priority trees on the non-eligible property. I continue to have concerns as mentioned in my Direct Testimony, "It seems apparent that ratepayers are footing the total bill for damages and the inconvenience of outages caused by priority trees".[20]

In response to my Direct Testimony, Mr. Hawkins's rebuttal testimony first mentions that I ignored the context of the Company's response to OCA Interrogatory Set X, No. 12 (b), which stated, "As it relates specifically to off ROW trees, that ability to recoup is assessed by considering a number of factors including, but not limited to, amount of damage sustained, relative responsibility of the property or tree owner, whether insurance exists for the property owner, solvency of the property owner, and governmental immunity. The Company is not aware of an instance in the last three years where the Company has sought to recover damages to its equipment from an off-ROW tree".[21]

In response to my Direct Testimony, Mr. Hawkins's rebuttal testimony states "FE PA does analyze off-corridor tree failures that result in damage to Company facilities, among other types of claims, to determine if it is economical to pursue reimbursement. The Company noted that it is often not economical to seek damages in these situations".[22] And if the Company chooses to pursue uneconomical claims, and if unsuccessful, it results in higher costs for the consumers.[23]

OCA asked the Company in Interrogatory Set XXIV, No. 4, "Please quantify the "uneconomical claims" and explain how they increase the Company's non-rate case legal

[19] FE PA Statement No. 12-R at 26.
[20] OCA Statement No. 7 at 35.
[21] Response to OCA Interrogatory Set X, No. 12 (b).
[22] FE PA Statement No. 12-R at 26.
[23] Ibid.

expense." The Company did not quantify the uneconomic claims and responded "Uneconomical claims occur when legal and other expenses associated with resolving an incident exceed potential recovery. Considering the cost of legal remedies, even absent litigation, it is often cost prohibitive to pursue recovery. Indeed, the Company is not aware of any other peer utility in North America that seeks restitution more aggressively without consideration of potential recovery. Incurring legal costs beyond potential recovery does not represent best management practices nor reasonable stewardship".[24]

Additionally, OCA asked the Company in the same Interrogatory, "Please explain how non-rate case legal expenses result in a higher cost to customers if the Company is unsuccessful." The Company responded, "Each individual incident is examined on a case-by-case basis to estimate the overall cost to pursue compared to the ability to recover damages. Legal expenses are incurred through every step of this process and, if the Company is not ultimately successful in seeking recovery, those legal expenses would result in a cost without a benefit to customers. Overall, any costs to a program reduce the funds that can be otherwise used towards adding value to programs, therefore the Company will not pursue claims unless the benefits outweigh the costs".[25]

Q. How does the Company plan to convince landowners to agree to priority tree removal?

A. The Company has not shared a plan to convince landowners to agree to priority tree removal, even though multiple discovery requests have inquired about off-ROW/priority trees and the fact remains that these trees continue to be the number one cause of outages.

Q. Do landowners understand that they could be liable for damages if they do not agree to priority tree removal?

A. Once again, I don't have an answer to this question because the Company did not share this information. Although, as the response to OCA Set X No. 12 (b) provides, "The Company is not aware of an instance in the last three years where the Company has sought to recover damages to its equipment from an off-ROW tree".[26] Given that response, I

[24] Company's Response to OCA Interrogatory Set XXIV No.4 (a).
[25] Company's Response to OCA Interrogatory Set XXIV No.4 (b).
[26] Response to OCA Interrogatory Set X, No. 12 (b).

question whether FirstEnergy personnel are actually communicating effectively with landowners over the potential liability from off-ROW trees damaging the Company's infrastructure.

Q. How do you respond to Mr. Hawkins's assertion that you cite the Company's response to OCA Interrogatory Set X, No. 14 without context?[27]

A. I disagree with Mr. Hawkins's assertion that I cited the Company's response to OCA Interrogatory Set X, No. 14 without context in my Direct Testimony.[28]

During the Interrogatory, OCA asked, "Please explain when the Company deemed overhanging limbs in Zones 2 and 3 to be an issue".[29] The Company responded, "In 2019, the Company started tracking outage causes in more detail, including whether the outage was caused by a tree limb from an off-ROW tree." I cited this response in my Direct Testimony.

Right after citing the Company's response, I stated, "If FirstEnergy started clearing overhanging limbs in Zones 2 and 3 in 2019, its reliability performance would likely have improved." So, the added context is in the next sentence that I provided in my Direct Testimony. Which is, "if the Company had started clearing overhanging limbs in Zones 2 and 3 starting in 2019" when it started tracking outages in more detail, including gathering details such as if the outages are caused by overhanging limbs – tree limbs from off-ROW trees, the Company's "reliability performance would have improved".[30] Hence Mr. Hawkins's assertion is incorrect.

Q. Are you satisfied with Mr. Hawkins's explanation of why the Company has not performed additional work to clear overhanging limbs since 2014?

A. No, I am not. The Company has now updated its OCA Interrogatory Set X, No. 14 response to "In 2014, not 2019 as previously stated, the Company started tracking outage cause in

[27] FE PA Statement No. 12-R at 27.
[28] OCA Statement No. 7 at 37.
[29] OCA Interrogatory Set X, No. 14.
[30] OCA Statement No. 7 at 37.

more detail, including whether the outage was caused by a tree limb from an off-ROW tree".[31,32]

Since 2014, the Company started tracking overhanging limbs but focused only on clearing Zone 1 overhanging vegetation. If the Company started clearing overhanging limbs in Zone 2 and 3 back in 2014, the Company's reliability performance would have improved. To clear Zone 2 and 3 overhanging vegetation, the Company now claims it needs "significant additional resources".[33] This is the reason why I recommend a 2 year clearance cycle so that issues like these can be caught early instead of waiting for the Company to finish two 4-5 year cycles. My concern is that it would be too late to course correct after 8-10 years.

Q. Does Mr. Hawkins's rebuttal testimony explain why the Company has not pursued the removal of overhanging limbs in Zones 2 and 3 since 2014?

A. No. Mr. Hawkins's rebuttal testimony explains why the Company did not pursue the removal of overhanging limbs in Zones 2 and 3 since 2019, not 2014.[34] As I mentioned above, the Company started tracking outages in more detail starting in 2014, not 2019. However, the explanation of why the Company did not pursue the removal of overhanging limbs is limited to 2019 and beyond. Hence, I did not find an explanation on why the Company has not pursued the removal of overhanging limbs in Zones 2 and 3 between 2014 and leading up to 2019, even though it started tracking outages in more detail, including outages caused by overhanging limbs – tree limbs from off-ROW trees.

Q. How do you respond to Mr. Hawkins's assertion that "Removal of Zone 2 and 3 overhanging limbs would have required significant additional resources that have not yet been available"?[35]

A. In response to OCA Interrogatory Set XXIV, No. 6 "The Company estimates $320-$330M is necessary for the removal of overhanging limbs in Zones 2 and 3 over the 10-year length of the enhanced program… the Company estimates it will require approximately 3.5M

[31] Response to OCA Set X, No. 14.
[32] FE PA Statement No. 12-R at 27.
[33] FE PA Statement No. 12-R at 28.
[34] FE PA Statement No. 12-R at 27.
[35] FE PA Statement No. 12-R at 27-28.

labor hours attributable to tree crews to effectuate the removal of overhanging limbs from Zones 2 and 3 over the 10-year length of the Enhanced program".[36] While this is a significant cost estimate, the Company was aware of overhanging limb issues as early as 2014. The Company filed base rate cases in both 2014 and 2016, and yet apparently devoted no resources to addressing overhanging limbs in Zones 2 and 3. I also question why if additional resources "needed to be made available", why did the Company not file a base rate case over the last eight years, even knowing that important vegetation management issues were not being addressed.

Q. How do you respond to Mr. Hawkins that your proposed annual reporting requirements are "burdensome to collate"?[37]

A. My recommendations for annual reporting requirements are not burdensome. They are common sense, especially given the company's historical reliability performance. The Commission should be able to ascertain whether the enhanced vegetation management program is working in 2 years, not 10 years as proposed by the Company. The Commission's Technical Utility Services staff must be able to compare the Company's efforts in the current vegetation management program and the Long Term Infrastructure Improvement Plan (LTIIP) to the enhanced vegetation management program. My annual reporting requirements recommendation helps the Commission's Technical Utility Services staff make this comparison on a periodic basis, just like the current annual reliability reports.

Q. Do you agree with the Company's proposed condition that Commission approval for an enhanced vegetation management program is necessary for the Company's commitment to provide annual reports?[38]

A. No, I do not. Because of its historically poor reliability performance, the Company should commit to annual reporting requirements without any conditions, as I recommended in my Direct Testimony. The Commission should reject the Company's condition.

[36] Response to OCA Interrogatory Set XXIV, No. 6.
[37] FE PA Statement No. 12-R at 28.
[38] FE PA Statement No. 12-R at 29.

Q. How do you respond to the Company's concerns regarding additional detailed reporting leading to additional time and resources to complete, as mentioned in response to OCA Interrogatory Set XXIV, No. 7"?[39]

A. It is critical during the first three years of the enhanced vegetation management program to gather all the data necessary to assess if the program is working as intended. Hence, the overall recommendations in my Direct Testimony related to annual reporting requirements are not overly burdensome and should not require additional time and resources to complete beyond the scope of reporting as part of the enhanced vegetation management program.[40]

Q. How do you respond to Mr. Hawkins's assertion that the Company "does not plant vegetation on the corridor during vegetation management maintenance activities"?[41]

A. I am confused by Mr. Hawkins's assertion because it is not clear whether the Company is committed to planting low growing trees to limit the growth of other incompatible trees. In Mr. Smith's direct testimony, he states, "The enhanced vegetation program will help the Company create and sustain a compatible, stable, and low growing plant community on the corridor, which will then compete with other plant species to limit the growth of additional incompatible tree species over time".[42] I interpreted Mr. Smith's statement as the Company had committed to planting low growing plants in the "removal of on-corridor incompatible trees and brush" element of the enhanced vegetation management program.[43] Consequently, I recommended reporting on whether low growing plants were planted as part of the identification of work related to the removal of on-corridor incompatible trees and brush.

Mr. Hawkins's rebuttal testimony states that the Company "does not plant vegetation on the corridor during vegetation management maintenance activities".[44] Based on Mr. Hawkins's rebuttal testimony, it is not clear whether the Company is committed to planting

[39] Response to OCA Interrogatory Set XXIV, No. 7.
[40] OCA Statement No. 7 at 32.
[41] FE PA Statement No. 12-R at 29.
[42] FE PA Statement No. 2 at 20.
[43] Ibid.
[44] FE PA Statement No. 12-R at 29.

low-growing plants to compete with other plant species so that other incompatible tree growth is limited over time.

Q. How do you respond to Mr. Hawkins's assertion that your recommendation to identify remedial actions taken during storms and extraordinary storms in the annual report be rejected?[45]

A. I disagree. The Company currently identifies "repair damage caused by trees during a storm" and "repair damage caused by trees during a storm (limb)" as part of "Remedial Action Planned or Taken" in Attachment A, Worst Performing Circuits – Remedial Actions in the Joint Annual Reliability Reports submitted in docket M-2016-2522508. My recommendation extends this current level of reporting to identify "repair damage caused by trees during an extraordinary storm." Hence, the Commission should reject Mr. Hawkins's assertion because the identification of remedial actions taken specific to extraordinary storms will help the Commission ascertain whether the enhanced vegetation management program is ultimately working, which should result in less extraordinary storm damage expense deferral.

Q. How do you respond to Mr. Hawkins's assertion that it is difficult to "quantify the removal of off-corridor priority trees and other types of vegetation during a storm"?[46]

A. I propose that the Company explore adding reporting capabilities to the Advanced Vegetation Analytics Tool, the machine learning model it developed internally. Since this is a "custom tool, tailored for the Company's specific operating area" this tool might reduce the concerns about reporting during storms.[47]

Q. How do you respond to Mr. Hawkins's assertions that you make inaccurate claims that the Company's vegetation management and maintenance is lacking?[48]

A. I disagree. In my Direct Testimony, I stated during "2016-2024, FirstEnergy filed eight different petitions for deferral accounting treatment based on extraordinary storm

[45] FE PA Statement No. 12-R at 29.
[46] Ibid.
[47] Response to OCA Set X, No. 1.
[48] FE PA Statement No. 12-R at 30.

damage".[49] I also stated, "the sheer number of FirstEnergy's deferral accounting treatment petitions due to extraordinary storm damage, and the apparent lack of any other large PA EDCs submitting similar petitions, is very concerning".[50] These are the reasons behind my conclusion that "FirstEnergy's vegetation management and maintenance is lacking." Hence, I disagree with Mr. Hawkins's assertion.

Q. How do you respond to Mr. Hawkins's assertion that contrary to your claim, the frequency of the Company's storm deferral petitions is not related to the frequency of outages based upon vegetation management?[51]

A. I disagree. As I mentioned in my Direct Testimony, priority trees and overhanging limbs had a major impact on storm damage expenses based on my observations of multiple instances of off-ROW trees and off-ROW limbs as the cause during storms for worst performing circuits, in Attachment A, of the Company's Joint Annual Reliability Reports.[52] During the same time (2016-2024), the Company filed eight different petitions for deferral accounting treatment based on extraordinary storm damage. Hence, I concluded that there is a relationship between the Company's extraordinary storm deferrals and the removal of off-ROW trees and off-ROW limbs.

Q. How do you respond to Mr. Hawkins's assertions that if your claims were right, there would be a correlation between the frequency of storm deferral petitions and SAIFI?[53]

A. Mr. Hawkins states that if "the frequency of the Company's storm deferral petitions were related to the frequency of outages based upon vegetation management" then he expects "there would be a correlation between the frequency of the storm deferral petitions and SAIFI".[54] Mr. Hawkins implies that frequent storm deferral petitions should lead to worse SAIFI performance to rebut my conclusion that there is a relationship between the Company's extraordinary storm deferrals and the removal of off-ROW trees and off-ROW

[49] OCA Statement No. 7 at 51.
[50] OCA Statement No. 7 at 52.
[51] FE PA Statement No. 12-R at 30.
[52] OCA Statement No. 7 at 52.
[53] FE PA Statement No. 12-R at 30.
[54] Ibid.

limbs. In my Direct Testimony, I stated, "if FirstEnergy had taken proactive steps in the removal of priority trees since LTIIP was first established in 2016, the extraordinary storm damage expense deferral amounts would have been reduced".[55] I did not discuss improvements in specific reliability metrics, such as SAIDI, related to the Company's frequent storm deferral petitions. I stated that, in general, it leads to better reliability performance and less frequent storm deferral petitions if priority trees and overhanging limbs are removed. I did not call out improvements in SAIDI. Hence, I disagree with Mr. Hawkins's assertions.

Q. Do you agree with Mr. Hawkins's argument that storm-related damage is not unique to the Company?[56]

A. Of course, all electric distribution companies experience some level of damage during storms. My point is that the level of storm-related damage is unique to the Company because, as the 2022 Pennsylvania Electric Reliability Report states, "Storm activity acts upon the vulnerability of weakened trees in the overhanging canopy, and OROW".[57] As mentioned in my Direct Testimony, "FirstEnergy is the only large EDC that has filed for deferral accounting treatment due to extraordinary storm damage." Hence, it is likely that FirstEnergy would have filed less frequent storm deferral petitions if it had prioritized removing priority trees and overhanging limbs.

Q. Do you agree with Mr. Hawkins that the Company's experience in West Virginia shows the need for an enhanced vegetation management program?[58]

A. I agree in part and disagree in part.

I agree that the Company's enhanced vegetation management program work in West Virginia appears to be similar to the proposed enhanced program in Pennsylvania.[59] However, as Mr. Smith stated in his direct testimony, "Due in part to the high tree density across FE PA's footprint, off-corridor trees are the leading cause of vegetation-caused

[55] OCA Statement No. 7 at 52.
[56] FE PA Statement No. 12-R at 30.
[57] Page iv, 2022 Pennsylvania Electric Reliability Report.
[58] FE PA Statement No. 12-R at 31.
[59] Response to OCA Interrogatory Set XXIV, No.8 (a).

outages for FE PA. The Company experiences a direct correlation between areas of high tree density and risk from off-corridor tree outages".[60] Hence, it is not clear whether West Virginia has high tree density like the Company's footprint in Pennsylvania. The Company acknowledges the differences between the Company's footprint in West Virginia and Pennsylvania, "While the two states have differences in terms of geography, terrain, weather, and other impacts, the results in West Virginia exemplify the type of expected reliability and other benefits in Pennsylvania through the enhanced program".[61]

I disagree with Mr. Hawkins that the Company's experience in West Virginia shows the need for an enhanced vegetation management program in Pennsylvania for two reasons. First, the West Virginia results for SAIFI, SAIDI and CAIDI are "after an initial 5-year reclamation cycle, removing over 625,000 off-corridor priority trees that may have failed and caused an outage".[62] As the Company indicates, reliability metrics are shown after 625,000 off-corridor priority trees were removed and after West Virginia started a second maintenance cycle "In 2019, West Virginia started a second maintenance cycle (2019-2022)".[63] The latter half (2029-2034) of the 10-year proposed Pennsylvania program would be analogous to the 2019-2022 period in West Virginia. As a result, we don't know the results of the West Virginia program in the first maintenance cycle (2015-2019), if the program started in 2015.

Second, not all metrics showed improvement in West Virginia. For example, tree-related SAIFI performance (performance attributed to off-corridor tree removal) shows some "modest" improvement, and tree-related SAIDI performance shows "significant improvement" but tree-related CAIDI did not improve[64]. In the non-tree metrics (vegetation management other than off-corridor tree removal), SAIFI improved, but not SAIDI and CAIDI. This mixed set of results in West Virginia does not indicate the need for an enhanced vegetation management program.

[60] FE PA Statement No. 2 at 9.
[61] Response to OCA Interrogatory Set XXIV, No.8 (a).
[62] Response to OCA Interrogatory Set XXIV, No.8 (b).
[63] Ibid.
[64] Ibid.

Q. Do you agree with Mr. Hawkins's assertion that it appears you have a problem with "the statute that enables a utility to file an LTIIP"?[65]

A. No. I don't have a problem with the statute that enables a utility to file an LTIIP. In my Direct Testimony, I mentioned that priority tree removal is not part of the Long Term Infrastructure Improvement Plan (LTIIP) because only "eligible property" – property owned and operated by the Company is part of LTIIP.[66] Mr. Hawkins misinterprets my concern. My concern is that the Company is not sharing its plan for gaining non-eligible property owners' approval to remove priority trees in the enhanced vegetation management program.

Q. Do you agree with Mr. Hawkins's assertion that you have presented no evidence to refute the Company's "conservative storm cost projection"?[67]

A. Mr. Hawkins is missing the point that I made. The Company expects only a 3 percent reduction in storm damage expenses after spending nearly $500 million ($100 million per year for 5 years). While I have not presented any quantitative evidence, I have presented qualitative evidence that suggests only a 3 percent reduction in storm costs in year 5 of a 10-year program is concerning. OCA had asked the Company in Interrogatory Set VI, No. 10 (c), "What is the expected percentage reduction in storm damage expenses due to removal of priority trees?". The Company responded, "The Company anticipates that the proposed Vegetation Management Program will reduce future storm expenses an estimated $2 to $3 million per year, starting in year 5. The expected percentage reduction in total storm damage expenses will vary by year, but is estimated at a 3 percent reduction in Year 5 if the enhanced budget is approved".[68] Hence, I stated in my Direct Testimony that "I am concerned that FirstEnergy is estimating only a 3 percent reduction in storm damage expenses".[69]

[65] FE PA Statement No. 12-R at 32.
[66] OCA Statement No. 7 at 33.
[67] FE PA Statement No. 12-R at 32.
[68] Company Response to OCA Interrogatory Set VI, No. 10 (c).
[69] OCA Statement No. 7 at 53.

Q. How do you respond to Mr. Hawkins's assertion that you misstate the Company's position that the "Company will only review storm expenses in 2029"?[70]

A. I missed the detailed explanation provided by the Company in response to OCA Interrogatory Set X, No.11. I understand now the Company has committed to reevaluating the enhanced vegetation management program in Year 5 if the storm damage expenses are not reduced.[71] However, it is important to contextualize that if allowed, this would permit the company to spend $500 million of ratepayer money on a projection that they can reduce outages and storm expenses. This is putting a lot of blind faith in the company without a plan, which is the reason why I have ratcheted back the request such that the Company can test and see whether enhanced spending will actually fix the problem.

Q. Do you agree with Mr. Hawkins's assertions that your "attempt to characterize FE PA's reliability performance as poor should be rejected"?[72]

A. I believe Mr. Hawkins is referring to the following statement in my Direct Testimony. I stated that it is "reasonable to adjust the Company's claimed storm expenses based on poor SAIFI performance".[73] As I mentioned in my Direct Testimony, FirstEnergy companies "consistently performed above the standard for the past 5 years (2018-2022) with two exceptions. To be clear, this is not a good thing as performance above the standard indicates a higher number than the standard, which indicates the worst performance".[74] Hence, my characterization that FirstEnergy's reliability performance is poor compared to Pennsylvania's large Electric Distribution Companies.[75] The Company acknowledged that "there is room to improve its reliability performance".[76]

[70] FE PA Statement No. 12-R at 33.
[71] Company Response to OCA Interrogatory Set X, No. 11 (c).
[72] FE PA Statement No. 12-R at 6.
[73] OCA Statement No. 7 at 26.
[74] OCA Statement No. 7 at 24.
[75] Tables 9-11, OCA Statement No. 7.
[76] FE PA Statement No. 12-R at 6-7.

Q. How do you respond to Mr. Hawkin's assertion that you recommend "reducing the Company's storm reserve by an incorrectly calculated SAIFI deviation from benchmark"?[77]

A. Calculating a statistical average of historical SAIFI values is consistent with the Commission's Technical Utility Services staff approach to calculating the statistical average for benchmark values.[78]

Q. Please explain why you disagree with the computation of the SAIFI weighted average of 9.5% calculated by Mr. Hawkins in his rebuttal testimony.

A. Mr. Hawkins calculated a weighted average "accounting for the appropriate magnitude of certain Rate Districts' performance." The Company arrived at a 9.5% SAIFI weighted average instead of the straight average of 21.3% that I had calculated in my Direct Testimony. I took the average of all 4 rate districts and created a composite average for the entire Company to get to the 21.3% number. The Company used a weighted average based on the size of each Rate District and how many customers are served to arrive at their 9.5% number. In my Direct Testimony, I am using the 21.3% number to reduce the Company's extraordinary storm damage claim in total, not the individual Rate District's extraordinary storm damage claims. That $18,125,022 reduction (Company proposed balance of $85,094,000 minus 21.3% equals $66,968,978) is then applied to each Rate District's revenue requirement to come up with the proposed revenue numbers.[79] The purported level of precision that the Company is seeking to apply here does not exist as the deferrals were not equally split among the 4 rate districts. Hence, I disagree with the 9.5% SAIFI composite value. The Commission should reject this 9.5% SAIFI composite value and adopt OCA's 21.3% value.

[77] FE PA Statement No. 12-R at 4.
[78] Page 3, 2022 Pennsylvania Electric Reliability Report.
[79] See OCA witness Mugrace Surrebuttal Exhibit DM-SR-20.

Q. How do you respond to Mr. Hawkins's assertion that in your Direct Testimony, the 3-year standard value for reliability metrics is incorrectly referred to as "benchmark"?[80]

A. In my Direct Testimony, I stated, "A benchmark performance value represents the statistical average of the individual reliability metric." I made that statement based on the "benchmark" description from the 2022 Pennsylvania Electric Reliability Report, which states that "**The benchmark performance value represents the statistical average** (bold added) of the EDC's annual, system-wide, reliability performance index values for the 5 years from 1994-98".[81] I did not incorrectly refer to the Company's 3-year standard value for reliability metrics as "benchmark." Hence, I disagree with Mr. Hawkins's assertion because my Direct Testimony accurately captures the description of "benchmark" from the Commission's Technical Utility Services 2022 Electric Reliability Report.

Q. How do you respond to Mr. Hawkins's assertion that you have incorrectly explained how the rolling 12-month and 3-year average standards are established?[82]

A. In my Direct Testimony, I state, "The rolling 12-month average is 120% of the benchmark for large EDCs. The rolling 3-year average is 110% of the benchmark for all EDCs".[83] Mr. Hawkins's rebuttal testimony states, "Contrary to Mr. Konidena's explanation, the 12-month standard is set to be 120% of the established benchmark, whereas the 3-year average is set at 110% of the benchmark." Since these statements are alike, I am not sure why Mr. Hawkins is stating that I have incorrectly explained how the rolling 12-month and 3-year averages are calculated.

Q. How do you respond to Mr. Hawkins's assertion that you have incorrectly stated the Key Performance Indicator (KPI) values for the Penelec and Penn Power Rate Districts in Table 6 of your Direct Testimony?

A. I agree. The revised Table 6 is shown below:

[80] FE PA Statement No. 12-R at 5.
[81] Page 3, 2022 Pennsylvania Electric Reliability Report.
[82] FE PA Statement No. 12-R at 5.
[83] OCA Statement No. 7 at 12.

Table 1 – 2024 Key Performance Indicators for SAIDI Comparison with 2023 Actuals

Rate District	Threshold	Target	Stretch Goal/ Benchmark	12-Month Actual With LTIIP II	Conclusion
Met-Ed	194	141	135	177.97	Meets Threshold only
Penn Power	162	118	148	256.06	Does not meet Threshold
Penelec	213	157	113	84.71	Meets Benchmark
West Penn Power	257	187	179	221.04	Meets Threshold only
FirstEnergy Company	219	160	152		

Q. What did Mr. Hawkins state regarding your recommendation that the enhanced vegetation management program should utilize a 1-2 year clearance cycle?

A. Mr. Hawkins stated that a 1-2 year clearance cycle compared to the Company's proposed 4-5 year clearance cycle would double the amount of work and would increase the costs of the clearance cycles.[84]

Q. What is your response?

A. A 2-year clearance cycle could be appropriate for certain areas of the Company's service territory as an example of how an acceleration of these activities would correspond to better

[84] FE PA Statement No. 12-R at 19.

reliability metrics in that area. For example, the Company could implement an accelerated vegetation management program in one Rate District, such as Penn Power, instead of implementing it across all 4 Rate Districts. Penn Power's Minimum Regulatory Required Budget is the lowest when compared to other Rate Districts in FirstEnergy.[85] As a pilot program, of sorts, the results and spending activities would be included in the detailed reporting that I have recommended in my Direct Testimony. These results could then be evaluated in the Company's next rate case. I do agree, however, that it is up to the Company as to how they proceed on any enhanced or accelerated vegetation management plan. My main point is that embarking on a ten-year enhanced plan with a substantial new level of spending is not reasonable based on the facts of this case.

Q. What did Mr. Hawkins state regarding battery storage as a good solution to improving reliability on FirstEnergy's worst performing circuits?

A. Mr. Hawkins acknowledges that, in theory, battery storage can improve reliability. He also mentions that FirstEnergy is exploring the implementation of a battery energy storage system (BESS) as part of its Long-Term Infrastructure Improvement Plan (LTIIP III). Additionally, he stated that while batteries can provide power, their capacity might not be sufficient to handle the demand of a whole circuit for a long time. Finally, Mr. Hawkins states that "it is most likely impractical"[86] to implement BESS on the scale mentioned in my Direct Testimony.

Q. What is your response?

A. Battery storage would improve reliability. This is not theoretical. It is practical. As I mentioned in my Direct Testimony, Duquesne Light Company is installing batteries as part of its "Hookstown Battery Energy Storage System Project".[87] Additionally, the Commission has previously approved batteries for the worst performing circuits at UGI Utilities.[88]

[85] Table 1, FE PA Statement No. 12-R at 19.
[86] FE PA Statement No. 12-R at 9.
[87] OCA Statement No. 7 at 46.
[88] Ibid.

Regarding Mr. Hawkins's concerns about whether the battery capacity can handle a long outage duration, in my Direct Testimony, I proposed that FirstEnergy conduct a study to assess the feasibility of batteries at the worst-performing circuits.[89] This proposed study will address Mr. Hawkins's concerns.

Q. How do you respond to Mr. Hawkins that your Direct Testimony incorrectly captures two substations in the worst performing circuit listing for the Met-Ed Rate District?

A. I agree. Based on the 5-year historical data, Ottsville Substation 00660-3 and Mountain Substation 00743-4 were inadvertently added to the worst-performing circuit list. The corrected list for Met-Ed has the following substation and circuit pairs that appeared two or more than two out of five times:

1. Barto Substation, 00706-1 circuit (three out of five times).
2. Angelica Substation, 00129-1 circuit (two out of five times).
3. Barto Substation, 00705-1 circuit (two out of five times).

Q. What did Mr. Hawkins state regarding undergrounding worst performing circuits?

A. Mr. Hawkins admitted selective undergrounding can reduce outages caused by trees and weather but cannot eliminate all outages since underground system components can fail as well. Underground outages tend to be longer and more expensive to repair compared to overhead outages. Factors like cost-effectiveness, impact on customer facilities, and terrain should guide the decision on improving circuit reliability. The Company views selective undergrounding as one of several options, not the sole method, for enhancing circuit reliability.[90]

Q. What is your response?

A. I agree with Mr. Hawkins and recommend the Commission direct the Company to explore undergrounding worst performing circuits.

[89] OCA Statement No. 7 at 47.
[90] FE PA Statement No. 12-R at 9.

Q. What did Mr. Hawkins state regarding the relationship between storm damage expenses and FirstEnergy's poor reliability performance?

A. Mr. Hawkins states storm damage expenses and FirstEnergy's poor reliability performance are not related, "Contrary to Mr. Konidena's claim, these items are not inherently related. Indeed, if the frequency of the Company's storm deferral petitions were related to the frequency of outages based upon vegetation management, there would be a correlation between the frequency of the storm deferral petitions and SAIFI".[91]

Q. What is your response?

A. I do not agree with Mr. Hawkins. The Company admitted in response to OCA Interrogatory Set X, No. 11, "Storm expenses decrease when the volume of vegetation is reduced".[92]

Q. What did Mr. Hawkins state regarding the relationship between storm damage expenses and the need for an enhanced vegetation management program?

A. Mr. Hawkins states storm damage expenses show the need for additional investments like the enhanced vegetation management program.[93]

Q. What is your response?

A. I don't disagree with the need for an enhanced vegetation management program. However, I continue to remain concerned about the amount requested for the enhanced vegetation management program.

Q. What did Mr. Hawkins state regarding the relationship between storm damage expenses and Pennsylvania electric utilities?

A. Mr. Hawkins states that storm damage expenses are not unique to FirstEnergy. It is a widespread issue affecting all Pennsylvania electric utilities.[94]

[91] FE PA Statement No. 12-R at 30.
[92] FE PA Response to OCA Interrogatory Set X, No. 11.
[93] FE PA Statement No. 12-R at 30.
[94] FE PA Statement No. 12-R at 30.

Q. What is your response?

A. While storms are not unique to the Company, storm-related damage appears to be centered around it. As shown in my Direct Testimony, other large EDCs have relatively better reliability and fewer storm damages. Additionally, small EDCs perform much better than the Company.[95] Hence, past reliability performance data point to a strong relationship between storm damage expenses, reliability performance, and in FirstEnergy's case a lack of attention to past vegetation management practices.

Q. Please state your conclusions in response to Mr. Hawkins's rebuttal testimony.

A. In conclusion, I dispute several of Mr. Hawkins' claims about my representation of the reliability metrics, as discussed above. More crucially, the undeniable fact is that FirstEnergy's reliability performance has been consistently poor for an extended period. While increased storm activity can influence these metrics, it is unreasonable to attribute the company's poor performance solely to weather conditions, as they are not significantly different from the rest of Pennsylvania.

Q. The purpose of Mr. De Stigter's rebuttal testimony states that the benefit cost analysis of the enhanced vegetation management program for the FirstEnergy system is "presented in order to rebut claims that the Company's enhanced vegetation management program is not justified".[96] How do you generally respond?

A. In my Direct Testimony, I recommended that "the Commission partially reject FirstEnergy's enhanced vegetation management program because there is no guarantee that vegetation management alone produces better reliability performance".[97] I did not state that the Company's enhanced vegetation management program is not justified. Additionally, Mr. De Stigter's benefit cost analysis does not explicitly model or analyze the primary causes of the Company's poor reliability performance, priority trees and overhanging limbs. Hence, I am not sure how much value the benefit cost analysis adds if it does not model the four elements in the Company's enhanced vegetation management program -

[95] Tables 9-11, OCA Statement No. 7.
[96] FE PA Statement No. 14-R at 3.
[97] OCA Statement No. 7 at 6.

removal of Priority Trees, removal of on-corridor incompatible trees and brush, removal of vegetation overhanging the corridor and widening of the corridors.

Q. How do you respond to Mr. De Stigter's rebuttal testimony regarding the benefit cost analysis (BCA) for the enhanced vegetation management program?

A. I disagree with Mr. De Stigter's rebuttal testimony, which recommends the Commission approve the Company's enhanced vegetation management program. Mr. De Stigter's benefit cost analysis focused primarily on two aspects: vegetation outages and customer benefits due to fewer outages.

Regarding vegetation outages, Mr. De Stigter states, "the precise decrease in vegetation outages is challenging to estimate." His evaluation has assumed that "the full benefits of avoided vegetation outages occur after the program is complete".[98]

Regarding customer benefits due to fewer outages, Mr. De Stigter's analysis includes discounted cash flow calculations over a 15-year horizon, not the 10-year, which is the duration of the proposed enhanced vegetation management program. By assuming "vegetation management investment levels will revert back to historical levels after the program is complete", Mr. De Stigter is including benefits from the current vegetation management program.

[98] FE PA Statement No. 14-R at 7.

Q. Should the Commission rely on Mr. De Stigter's benefit cost analysis?

A. No. The Commission should not rely on Mr. De Stigter's benefit cost analysis because it does not indicate with any degree of certainty that vegetation outages will decrease, nor does it assume that benefits occur during the enhanced vegetation management program. It is also unclear how "vegetation" is defined.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No. R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Rao Konidena, hereby state that the facts above set forth in my Surrebuttal Testimony, OCA Statement 7SR, are true and correct (or are true and correct to the best of my knowledge, information, and belief) and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: August 5, 2024 Signature: _____
Rao Konidena

Address: Rakon Energy, LLC
2309 Auerbach Street
Roseville, MN 55113

OCA St. 4R

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	**)**	
v.	**)**	**Docket No. R-2024-3047068**
FirstEnergy Pennsylvania Electric Company	**)**	

REBUTTAL TESTIMONY OF

KARL RICHARD PAVLOVIC

ON BEHALF OF

THE PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

July 22, 2024

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I. STATEMENT OF QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Karl Richard Pavlovic. My business address is 22 Brooks Avenue, Gaithersburg, MD 20877.

Q. ARE YOU THE SAME KARL RICHARD PAVLOVIC WHO SUBMITTED DIRECT TESTIMONY ON JUNE 25, 2024 IN THIS PROCEEDING?

A. Yes. Exhibit KRP-1 to my June 25, 2024 direct testimony summarizes my qualifications and experience and contains a complete list of my engagements as an expert and/or expert witness in matters before state and federal regulatory agencies.

II. PURPOSE OF REBUTTAL TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of the Pennsylvania Office of Consumer Advocate ("OCA").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My rebuttal testimony responds to the direct testimony of the Office of Small Business Advocate (OSBA), the Large Users Groups (LUG) and the Bureau of Investigation and Enforcement (I&E) regarding FirstEnergy's four rate district cost of service studies and proposed rate district and rate district class revenue requirements.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized as follows. Section III A summarizes my findings, conclusions and recommendations. Section III B sets forth prefatory contextual observations. Sections III C 1 through III C 4 address respectively the Met-Ed, Penelec, Penn Power and West Penn Power rate district and rate district class revenue requirements proposed by OSBA,

LUG and I&E and compare those class revenue requirements to those proposed by FirstEnergy and OCA. Section III D addresses I&E's scale back proposal.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits.

- Exhibit KRP-1R – shows the calculation of the values in Tables 1, 2 and 3 below of the FirstEnergy and OCA revenue requirements, revenue increases and relative rates of return using FirstEnergy's Minimum-Size Met-Ed COSS

- Exhibit KRP-2R – shows the calculation of the values in Tables 1, 2 and 3 below of the OCA revenue requirements, revenue increases and relative rates of return using OCA's Non-Minimum-Size Met-Ed COSS

- Exhibit KRP-3R – shows the calculation of the values in Tables 4, 5 and 6 below of the FirstEnergy and OCA revenue requirements, revenue increases and relative rates of return using FirstEnergy's Minimum-Size Penelec COSS

- Exhibit KRP-4R – shows the calculation of the values in Tables 4, 5 and 6 below of OCA revenue requirements, revenue increases and relative rates of return using OCA's Non-Minimum-Size Penelec COSS

- Exhibit KRP-5R – shows the calculation of the values in Tables 7, 8 and 9 below of the FirstEnergy and OCA revenue requirements, revenue increases and relative rates of return using FirstEnergy's Minimum-Size Penn Power COSS

- Exhibit KRP-6R – shows the calculation of the values in Tables 7, 8 and 9 below of OCA revenue requirements, revenue increases and relative rates of return using OCA's Non-Minimum-Size Penn Power COSS

- Exhibit KRP-7R – shows the calculation of the values in Tables 10, 11 and 12 below of the FirstEnergy and OCA revenue requirements, revenue increases and relative rates of return using FirstEnergy's Minimum-Size West Penn Power COSS

- Exhibit KRP-8R – shows the calculation of the values in Tables 10, 11 and 12 below of OCA revenue requirements, revenue increases and relative rates of return using OCA's Non-Minimum-Size West Penn Power COSS

III. DISCUSSION

A. SUMMARY

Q. PLEASE SUMMARIZE THE SUBSTANCE OF YOUR TESTIMONY.

A. As detailed below, I find that:

- the rate district class revenue requirements proposed by OSBA, LUG, and I&E are all based on FirstEnergy's minimum-size COSSs for which there is, as I demonstrated in my direct testimony, no support in theory, system design and operating practice, or empirical quantitative data. As such they do not provide a cost causative basis for moving the class revenue requirements towards cost recovery parity. Therefore, I recommend that the Commission reject the proposed class revenue requirements proposed by OSBA, LUG and I&E;
- I&E's proposed scale back methodology should not be accepted and implemented by the Commission, because (1) it rests on FirstEnergy's minimum-size COSSs which cannot provide an accurate and reliable cost recovery metric, viz., relative rate of return and (2) by selectively targeting certain classes for first dollar relief, the methodology is incapable of producing uniform and consistent movement to cost parity across all classes under an approved reduced revenue requirement;
- if the Commission approves rate district revenue requirements that are less than those proposed by FirstEnergy, the class revenue requirements and rates should be scaled back proportionally based on OCA's non-minimum-size rate district COSSs and OCA's class revenue requirements that uniformly move class revenue requirements towards cost recovery parity.

B. PREFATORY CONTEXTUAL OBSERVATIONS

Q. WHAT ARE YOUR PREFATORY CONTEXTUAL OBSERVATIONS?

A. I have two prefatory observations.

First, FirstEnergy has revised its West Penn Power cost of service study ("COSS").[1] I have taken account of this revision in this testimony. LUG witness Andrews submitted a revised West Penn Power COSS and class revenue requirements,[2] of which I have also taken account in this testimony.

Second, without providing supporting evidence, OSBA, LUG and I&E accept FirstEnergy's four rate district COSSs which use minimum-size customer classification of Accounts 364, 365, 366, 367 and 368 and base their proposed rate district class revenue requirements on the results of FirstEnergy's minimum-size COSSs. In my direct testimony, however, I demonstrated that there is no basis in theory, system design and operating practice, or empirical quantitative data to support FirstEnergy's use of the minimum-size method to classify as customer-related any portion of its distribution costs in Accounts 364, 365, 366, 367 and 368 in its rate district COSSs.[3] Thus, I have included in the discussions below OCA's class revenue requirements based on the four COSSs without minimum-size classification that I presented in my direct testimony.[4]

[1] FirstEnergy Revised Response to I&E Set RS, No. 005, CONFIDENTIAL Attachment A.xlsx
[2] Supplemental Direct Testimony and Exhibits of Brian C. Andrews (LUG St. No. 1S).
[3] Direct Testimony of Karl Richard Pavlovic (OCA St. No. 1), page 7 line 1 to page 15 line 13.
[4] Pavlovic Direct, Exhibits KRP-3, 5, 7 and 9.

C. RATE DISTRICT AND CLASS REVENUE REQUIREMENTS

Q. PLEASE EXPLAIN THE CLASS REVENUE REQUIREMENT COMPARISON TABLES FOR FIRSTENERGY'S FOUR RATE DISTRICT.

A. In each subsection below there are three tables for each of FirstEnergy's four rate districts. Tables 1 (Met-Ed), 4 (Penelec), 7 (Penn Power) and 10 (West Penn Power) compare the class revenue requirements proposed by FirstEnergy, OSBA, LUG, I&E and OCA (with and without minimum-size classification). OSBA, LUG and I&E presented class revenue requirements based on the tariff rate portion of FirstEnergy's rate district revenue requirements at 8.19% return which include the other operating revenues shown in the table below. For purposes of comparison, FirstEnergy's and OCA's class revenue requirements are also presented on a tariff rate basis in Tables 1 (Met-Ed), 3 (Penelec), 5 (Penn Power) and 7 (West Penn Power).

FirstEnergy Rate District Proposed Revenue Requirement Components			
Rate District	Full Revenue Requirement ($000)	Tariff Rate-Related Revenue Requirement ($000)	Other Operating Revenues ($000)
Met-Ed	642,308	614,988	27,320
Penelec	629,767	604,555	25,212
Penn Power	187,186	181,666	5,520
West Penn Power	614,232	597,940	16,292
Total	2,073,493	1,999,149	74,344

The FirstEnergy revenue requirements in Tables 1 (Met-Ed), 4 (Penelec), 7 (Penn Power) and 10 (West Penn Power) are as calculated by FirstEnergy, summing 10% of current revenues and 90% of revenues at 8.19% rate of return for each class. The two OCA sets of class revenue requirements are calculated by applying a uniform 50% movement to cost

parity measured by relative rate of return for both FirstEnergy's minimum-size COSS and OCA's non-minimum-size COSS.

Tables 2 (Met-Ed), 5 (Penelec), 8 (Penn Power) and 11 (West Penn Power) show the increase over current rates for each of the revenue requirements in Tables 1 (Met-Ed), 4 (Penelec), 7 (Penn Power) and 10 (West Penn Power).

Tables 3 (Met-Ed), 6 (Penelec), 9 (Penn Power) and 12 (West Penn Power) compare the movement toward cost parity of the six revenue requirements measured by relative rate of return (RROR). A class relative rate of return of 1.00 indicates that the class is earning the overall rate of return. A class relative rate of return less than 1.00 indicates that the class is underearning or under recovering its cost of service, i.e., the revenue generated by rates is not covering the full cost of service to the class. A class relative rate of return greater than 1.00 indicates that the class is overearning or over recovering its cost of service, i.e., the revenue generated by rates is more than covering the full cost of service to the class. Relative rate of return is the most commonly used metric by which fair cost apportionment is measured and evaluated and the most transparent means of comparing class revenue requirements.

In Tables 3 (Met-Ed), 6 (Penelec), 9 (Penn Power) and 12 (West Penn Power), the left most column shows the rate district class relative rates of return for the minimum-size COSS under current rates. The next column shows the rate district class relative rates of return for OCA's non-minimum-size COSS under current rates. These are used to assess OSBA, LUG and I&E claims about movement towards parity.

1. MET-ED RATE DISTRICT AND CLASS REVENUE REQUIREMENTS

Q. ON WHAT BASIS DID OSBA, LUG AND I&E DEVELOP THEIR PROPOSED MET-ED RATE DISTRICT AND CLASS REVENUE REQUIREMENTS?

A. All three accepted FirstEnergy's Met-Ed tariff rate revenue requirement shown in the unnumbered table in Section C above**.**

OSBA witness Ewen states that he moved the Met-Ed classes 75% towards cost parity, subject to the following constraints: (1) the minimum rate change was set to zero to avoid rate reductions, (2) the maximum increase was set at 1.5 times the system increase, and (3) revenues not captured by classes subject to the second constraint were allocated to the other classes proportionally based on current revenues. This resulted in substantial increases to the R, GSS and POL classes, no increases to the GSV, TP and MS classes, smaller increases to the GSM, GSL, GP BRD and STLT classes.[5]

LUG witness Andrews states that he moved Met-Ed's classes 50% to cost parity, subject to the following constraints: (1) no class received an increase greater than 2.0 times the system average increase and (2) the revenues uncaptured due to the first constraint were allocated to the remaining classes.[6] Specifically, witness Andrews reduced the GSS and BRD classes by $884,000 and $20,000 and increased the R and MS classes by $899,000 and $5,000.[7]

[5] Direct testimony of Mark D. Ewen (OSBA St. No. 1), page 10.
[6] Andrews Direct, pages 20-21
[7] Andrews Direct, page 21

I&E witness Kubas states that he accepted FirstEnergy's class revenue requirements for Met-Ed.[8]

The resulting OSBA, LUG and I&E revenue requirements are compared to each other and FirstEnergy in Table 1 below. Also for comparison purposes Table 1 includes in the two right most columns, revenue requirements that result from uniform 50% movement to cost parity based on FirstEnergy's minimum-size COSS and OCA's non-minimum-size COSS, respectively.

Table 1 – Comparison of Proposed Met-Ed Class Revenue Requirements ($000)

Rate Class	FE PA Proposed Revenue[9]	OSBA Proposed Revenue[10]	LUG Proposed Revenue[11]	I&E Proposed Revenue[12]	OCA Min Sys Revenue[13]	OCA No Min Sys Revenue[14]
Residential	454,614	472,808	464,131	454,614	454,358	406,533
General Service Volunteer	690	567	535	690	548	652
General Service Small	22,970	24,242	26,657	22,970	27,094	18,031
General Service Medium	71,190	58,382	63,021	71,190	66,676	102,440
General Service Large	13,366	11,497	12,158	13,366	13,307	30,848
General Service Primary	33,402	30,701	31,580	33,402	34,217	35,027
General Service Transmission Power	9,337	7,600	7,647	9,337	9,845	12,051
Borderline Service	65	64	71	65	92	67
Municipal Streetlighting Service	195	159	163	195	165	239
Private Outdoor Lighting	851	926	922	851	918	816
Streetlighting Service	8,308	8,043	8,102	8,308	7,767	8,284
Total	614,988	614,989	614,988	614,988	614,988	614,988

[8] Direct Testimony of Joseph Kubas (I&E St. No. 3), page 25.
[9] Exhibit KRP-1R.
[10] Ewen Direct, Table IEc-2.
[11] Andrews Direct, Table 5
[12] Kubas Direct, page 25.
[13] Exhibit KRP-1R.
[14] Exhibit KRP-2R.

Table 2 – Comparison of Proposed Met-Ed Class Revenue Increases ($000)						
Rate Class	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	102,277	120,472	111,794	102,277	102,021	54,196
General Service Volunteer	123	(0)	(32)	123	(19)	85
General Service Small	5,973	7,245	9,660	5,973	10,097	1,033
General Service Medium	14,163	1,354	5,993	14,163	9,649	45,412
General Service Large	2,723	854	1,515	2,723	2,663	20,204
General Service Primary	7,037	4,335	5,215	7,037	7,851	8,662
General Service Transmission Power	1,737	0	47	1,737	2,245	4,451
Borderline Service	19	19	26	19	47	22
Municipal Streetlighting Service	36	0	5	36	7	80
Private Outdoor Lighting	202	277	273	202	269	167
Streetlighting Service	1,798	1,533	1,592	1,798	1,257	1,775
Total	136,088	136,089	136,088	136,088	136,088	136,088

Q. WHAT IS YOUR ASSESSMENT OF THE MET-ED CLASS REVENUE REQUIREMENTS PROPOSED BY OSBA, LUG AND I&E?

A. The proposed Met-Ed revenue requirements of OSBA, LUG and I&E, as well as those of FirstEnergy, are based on the results of FirstEnergy's minimum-size Met-Ed COSS which does not reflect cost causation. Therefore the purported movements towards cost parity measured by the relative rates of return in Table 2 below are inconsistent with the principle of cost causation and do not represent consistent uniform movement towards parity in cost recovery.

Specifically regarding OSBA, Table 3 shows that OSBA's proposed revenue requirements move classes much closer to minimum-size cost parity than FirstEnergy. Compared to OCA's non-minimum-size COSS relative rates of return, OSBA's revenue requirements flip the R, GSS, POL and STLT classes from over-recovery to under recovery, flip the

GSM, GSL and MS classes from under recovery to over recovery, and move the GSV, GP, TP and BRD classes away from cost parity.

Specifically regarding LUG, Table 3 shows that LUG's proposed revenue requirements also move classes closer to minimum-size cost parity than FirstEnergy. Compared to OCA's non-minimum-size COSS relative rates of return, LUG's revenue requirements flip the R, GSS, and POL classes from over-recovery to under recovery, flip the GSM, GSL, MS and STLT classes from under recovery to over recovery, and move the GSV, TP and BRD classes away from cost parity.

Specifically regarding I&E, Table 3 shows that I&E's proposed revenue requirements are the same as FirstEnergy's regarding cost parity. Compared to OCA's non-minimum-size COSS relative rates of return, I&E's revenue requirements flip the R, GSS, and POL classes from over-recovery to under recovery, flip the GSM, GSL, MS and STLT classes from under recovery to over recovery, move the GSV and BRD classes away from cost parity, and move the GP class toward cost parity.

Table 3 – Comparison of Proposed Met-Ed Class Revenue Requirement Movement toward Class Cost Parity (relative rate of return = 1.00)								
Rate Class	Min Sys Current Rates RROR	No Min Sys Current Rates RROR	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	0.655	1.785	0.852	0.993	0.926	0.852	0.850	1.329
General Service Volunteer	5.870	2.020	4.651	3.350	3.010	4.651	3.152	1.420
General Service Small	(0.510)	4.503	(0.128)	0.016	0.288	(0.128)	0.337	2.535
General Service Medium	2.954	(0.677)	2.141	1.323	1.619	2.141	1.852	0.245
General Service Large	2.713	(1.515)	1.745	1.221	1.406	1.745	1.728	0.100
General Service Primary	2.359	1.960	1.497	1.172	1.278	1.497	1.595	1.391
General Service Transmission Power	6.725	2.051	3.212	2.184	2.212	3.212	3.513	1.427
Borderline Service	(1.379)	(0.196)	(0.697)	(0.710)	(0.503)	(0.697)	0.115	0.462
Municipal Streetlighting Service	4.511	0.005	3.421	2.350	2.484	3.421	2.540	0.540
Private Outdoor Lighting	0.075	1.064	0.350	0.626	0.611	0.350	0.598	1.023
Streetlighting Service	0.930	0.271	1.297	1.151	1.183	1.297	0.998	0.689
Total	1.000	1.000	0.852	0.993	0.926	0.852	0.850	1.329

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2. PENELEC RATE DISTRICT AND CLASS REVENUE REQUIREMENTS

Q. ON WHAT BASIS DID OSBA, LUG AND I&E DEVELOP THEIR PROPOSED PENELEC RATE DISTRICT AND CLASS REVENUE REQUIREMENTS?

A. All three accepted FirstEnergy's Penelec tariff rate revenue requirement shown in the unnumbered table in Section C above.

OSBA witness Ewen states that he moved the Penelec classes 50% to cost parity, subject to the following constraints: (1) the minimum rate changes were set to zero to avoid rate reductions, (2) the maximum increase was set at 1.5 times the system increase, and (3) for class revenues not captured by classes subject to the second constraint were allocated to the other classes proportionally based on current revenues. This resulted in substantial increases to the R and GSS classes, no increases to the GSV, TP and MS classes, and smaller increases to the GSM, GSL, GP BRD and STLT classes.[15]

LUG witness Andrews states that he moved Penelec's classes 50% to cost parity, subject to the following constraints: (1) no class received an increase greater than 2.0 times the system average increase and (2) the revenues uncaptured due to the first constraint were allocated to the remaining classes.[16] Specifically, witness Andrews reduced the GSS, BRD and STLT classes by $5,100,000, $55,000 and $3,000,000 and increased the R, GSM, GSL and Schedule H classes by $4,000, 000, $3.310,000, $695.000 and $150,000.[17]

[15] Ewen Direct, page 11.
[16] Andrews Direct, page 23.
[17] Andrews Direct, page 21

I&E witness Kubas states that based on relative rates of return he increased FirstEnergy's GSS and STLT proposed revenues by $2,050,00 and $803,000 and reduced FirstEnergy's proposed GSL and Schedule H revenues by $2,650,000 and $203,000.[18]

The resulting OSBA, LUG and I&E revenue requirements are compared to each other and FirstEnergy in Table 4 below. Also for comparison purposes Table 4 includes in the two right most columns, revenue requirements that result from uniform 50% movement to cost parity based on FirstEnergy's minimum-size COSS and OCA's non-minimum-size COSS, respectively.

Table 4 – Comparison of Proposed Penelec Class Revenue Requirements ($000)

Rate Class	FE PA Proposed Revenue[19]	OSBA Proposed Revenue[20]	LUG Proposed Revenue[21]	I&E Proposed Revenue[22]	OCA Min Sys Revenue[23]	OCA No Min Sys Revenue[24]
Residential	415,932	429,718	424,607	415,932	413,939	350,201
General Service Volunteer	1,213	1,028	1,011	1,213	988	1,156
General Service Small	25,934	26,397	28,863	27,984	33,608	22,093
General Service Medium	89,187	79,289	81,235	89,187	79,388	129,626
General Service Large	21,022	17,937	18,345	18,372	18,263	38,978
General Service Primary	24,462	24,194	23,707	24,462	24,752	24,625
General Service Transmission Power	11,428	11,047	10,831	11,428	13,579	16,142
Borderline Service	32	22	23	32	94	19
Schedule H	1,024	852	977	821	828	1,495
Private Outdoor Lighting	4,033	3,804	3,733	4,033	3,654	3,457
Streetlighting Service	10,288	10,266	11,222	11,091	15,462	16,763
Total	604,555	604,554	604,555	604,555	604,555	604,555

[18] Kubas Direct, page 26.
[19] Exhibit KRP-3R.
[20] Ewen Direct, Table IEc-3.
[21] Andrews Direct, Table 7.
[22] Kubas Direct, page 26.
[23] Exhibit KRP-3R.
[24] Exhibit KRP-4R.

Table 5 – Comparison of Proposed Penelec Class Revenue Increases ($000)						
Rate Class	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	86,803	100,589	95,478	86,803	84,809	21,072
General Service Volunteer	210	26	9	210	(14)	153
General Service Small	6,947	7,411	9,876	8,997	14,621	3,107
General Service Medium	16,180	6,281	8,227	16,180	6,380	56,618
General Service Large	3,671	586	994	1,021	912	21,627
General Service Primary	4,901	4,633	4,147	4,901	5,191	5,064
General Service Transmission Power	2,241	1,860	1,645	2,241	4,393	6,955
Borderline Service	16	6	7	16	79	3
Schedule H	172	0	126	(31)	(24)	644
Private Outdoor Lighting	773	544	473	773	394	197
Streetlighting Service	2,905	2,882	3,838	3,708	8,079	9,379
Total	124,819	124,818	124,819	124,819	124,819	124,819

Q. WHAT IS YOUR ASSESSMENT OF THE PENELEC CLASS REVENUE REQUIREMENTS PROPOSED BY OSBA, LUG AND I&E?

A. The proposed Penelec revenue requirements of OSBA, LUG and I&E, as well as those of FirstEnergy, are based on the results of FirstEnergy's minimum-size Penelec COSS which does not reflect cost causation. Therefore the purported movements towards cost parity measured by the relative rates of return in Table 6 below are inconsistent with the principle of cost causation and do not represent consistent uniform movement towards parity in cost recovery.

Specifically regarding OSBA, Table 6 shows that OSBA's proposed revenue requirements move classes much closer to minimum-size cost parity than FirstEnergy with the exception of the BRD and STLT classes which move away from cost parity. Compared to OCA's non-minimum-size COSS relative rates of return, OSBA's revenue requirements flip the GSS and BRD classes from over-recovery to under recovery, flip the GSM, GSL and MS

classes from under recovery to over recovery, and move the GSV class away from cost parity, and move the R, GP, TP, POL and STLT classes toward cost parity.

Specifically regarding LUG, Table 6 shows that LUG's proposed revenue requirements move classes closer to minimum-size cost parity than FirstEnergy. Compared to OCA's non-minimum-size COSS relative rates of return, LUG's revenue requirements flip the R, GSS, and BRD classes from over-recovery to under recovery, flip the GSM, GSL and MS classes from under recovery to over recovery, move the GSV and TP classes away from cost parity and move the R, GP, TP, POL and STLT classes toward cost parity.

Specifically regarding I&E, Table 6 shows that I&E's proposed revenue requirements move the revenue requirements for GSS, GSL and MS classes closer to cost parity and otherwise are the same as FirstEnergy's. Compared to OCA's non-minimum-size COSS relative rates of return, I&E's revenue requirements flip the R,GSS and BRD classes from over-recovery to under recovery, flip the GSM, GSL and MS classes from under recovery to over recovery, move the GSV class away from cost parity, and move the GP, TP, POL and STLT classes toward cost parity.

Table 6 – Comparison of Proposed Penelec Class Revenue Requirement Movement toward Class Cost Parity (relative rate of return = 1.00)								
Rate Class	Min Sys Current Rates RROR	No Min Sys Current Rates RROR	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	0.806	2.248	0.916	1.024	0.984	0.916	0.900	1.544
General Service Volunteer	3.352	1.456	3.104	2.231	2.153	3.104	2.043	1.190
General Service Small	(0.722)	1.429	(0.381)	(0.344)	(0.150)	(0.219)	0.225	1.202
General Service Medium	2.787	(0.387)	2.298	1.777	1.879	2.298	1.782	0.362
General Service Large	3.505	(0.840)	2.727	2.015	2.109	2.115	2.090	0.156
General Service Primary	1.727	1.775	1.268	1.228	1.155	1.268	1.311	1.330
General Service Transmission Power	3.490	1.534	1.417	1.300	1.233	1.417	2.082	1.211
Borderline Service	(1.917)	1.245	(1.405)	(1.626)	(1.605)	(1.405)	0.090	1.098
Schedule H	4.070	(0.395)	3.445	2.483	3.183	2.309	2.347	0.356
Private Outdoor Lighting	1.552	2.360	1.821	1.501	1.402	1.821	1.292	1.664
Streetlighting Service	(2.237)	(2.239)	(1.179)	(1.185)	(0.937)	(0.971)	0.160	0.150
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

3. PENN POWER RATE DISTRICT AND CLASS REVENUE REQUIREMENTS

Q. ON WHAT BASIS DID OSBA, LUG AND I&E DEVELOP THEIR PROPOSED PENN POWER RATE DISTRICT AND CLASS REVENUE REQUIREMENTS?

A. All three accepted FirstEnergy's Penn Power tariff rate revenue requirement shown in the unnumbered table in Section C above.

OSBA witness Ewen states that he moved the Penn Power classes 75% to cost parity, subject to the following constraints: (1) the minimum rate change was set to zero to avoid rate reductions, (2) the maximum increase was set at 1.5 times the system increase, (3) for class revenues not captured by classes subject to the second constraint were allocated to the other classes proportionally based on current revenues. This resulted in substantial

increases to the R, GSS, GP, POL and STLT classes, no increases to the GSV and TP classes, and smaller increases to the GSM, GSL and PNP classes.[25]

LUG witness Andrews states that he moved Penelec's classes 50% to cost parity, subject to the following constraints: (1) no class received an increase greater than 2.0 times the system average increase and (2) the revenues uncaptured due to the first constraint were allocated to the remaining classes. [26] Specifically, witness Andrews states that no class received an increase greater 2.0 times the system average so no further adjustments were required.[27]

I&E witness Kubas states that he accepted FirstEnergy's class revenue requirements for Penn Power.[28]

The resulting OSBA, LUG and I&E revenue requirements are compared to each other and FirstEnergy in Table 7 below. Also for comparison purposes Table 7 includes in the two right most columns, revenue requirements that result from uniform 50% movement to cost parity based on FirstEnergy's minimum-size COSS and OCA's non-minimum-size COSS, respectively.

[25] Ewen Direct, page 11.
[26] Andrews Direct, page 25.
[27] Andrews Direct, page 21.
[28] Kubas Direct, page 25.

Table 7 – Comparison of Proposed Penn Power Class Revenue Requirements ($000)						
Rate Class	FE PA Proposed Revenue[29]	OSBA Proposed Revenue[30]	LUG Proposed Revenue[31]	I&E Proposed Revenue[32]	OCA Min Sys Revenue[33]	OCA No Min Sys Revenue[34]
Residential	137,070	137,769	137,634	137,070	132,821	115,456
General Service Volunteer	139	102	116	139	130	128
General Service Small	7,678	8,553	8,610	7,678	7,785	6,014
General Service Medium	18,990	18,711	18,836	18,990	20,609	35,849
General Service Large	5,528	4,197	4,712	5,528	5,885	10,638
General Service Primary	6,191	6,947	6,762	6,191	6,779	6,728
General Service Transmission Power	3,644	2,803	2,262	3,644	5,128	4,303
Public/Non-Profit	114	112	113	114	115	130
Private Outdoor Lighting	812	833	825	812	779	669
Streetlighting Service	1,502	1,640	1,795	1,502	1,636	1,751
Total	181,666	181,668	181,666	181,666	181,666	181,666

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Table 8 – Comparison of Proposed Penn Power Class Revenue Increases ($000)						
Rate Class	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	40,869	41,569	41,434	40,869	36,621	19,256
General Service Volunteer	37	(0)	14	37	28	26
General Service Small	2,447	3,322	3,379	2,447	2,554	784
General Service Medium	5,621	5,343	5,468	5,621	7,241	22,481
General Service Large	1,501	170	685	1,501	1,858	6,611
General Service Primary	1,942	2,699	2,513	1,942	2,530	2,479
General Service Transmission Power	841	0	(541)	841	2,325	1,500
Public/Non-Profit	34	31	32	34	34	50
Private Outdoor Lighting	244	265	258	244	211	101
Streetlighting Service	498	637	792	498	633	748
Total	54,035	54,036	54,035	54,035	54,035	54,035

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[29] Exhibit KRP-5R.
[30] Ewen Direct, Table IEc-4.
[31] Andrews Direct, Table 9.
[32] Kubas Direct, page 25.
[33] Exhibit KRP-5R.
[34] Exhibit KRP-6R.

Q. WHAT IS YOUR ASSESSMENT OF THE PENN POWER CLASS REVENUE REQUIREMENTS PROPOSED BY OSBA, LUG AND I&E?

A. The proposed Penn Power revenue requirements of OSBA, LUG and I&E, as well as those of FirstEnergy, are based on the results of FirstEnergy's minimum-size Penn Power COSS which does not reflect cost causation. Therefore the purported movements towards cost parity measured by the relative rates of return in Table 9 below are inconsistent with the principle of cost causation and do not represent consistent uniform movement towards parity in cost recovery.

Specifically regarding OSBA, Table 9 shows that OSBA's proposed revenue requirements differ only slightly from FirstEnergy's regarding movement to cost parity. Compared to OCA's non-minimum-size COSS relative rates of return, OSBA's revenue requirements flip the R, GSV, GSS, TP and POL classes from over-recovery to under recovery, flip no classes from under recovery to over recovery, and move the GSM, GSL, GP, PNP and STLT classes toward cost parity.

Specifically regarding LUG, Table 9 shows that LUG's proposed revenue requirements differ only slightly from FirstEnergy's regarding movement to cost parity. Compared to OCA's non-minimum-size COSS relative rates of return, LUG's revenue requirements flip the R, GSV, GSS, TP and POL classes from over-recovery to under recovery, flip no classes from under recovery to over recovery, move no classes away from cost parity and move the GSM, GSL GP, and STLT classes toward cost parity.

Specifically regarding I&E, Table 9 shows that I&E's proposed revenue requirements are the same as FirstEnergy's regarding cost parity. Compared to OCA's non-minimum-size

COSS relative rates of return, I&E's revenue requirements flip the R, GSV, GSS, TP and POL classes from over-recovery to under recovery, flip no classes from under recovery to over recovery, move no classes away from cost parity, and move the GSM, GSL, PNP and STLT classes toward cost parity.

Table 9 – Comparison of Proposed Penn Power Class Revenue Requirement Movement toward Class Cost Parity (relative rate of return = 1.00)

Rate Class	Min Sys Current Rates RROR	No Min Sys Current Rates RROR	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	0.691	2.932	0.756	0.769	0.767	0.756	0.678	0.356
General Service Volunteer	4.682	2.105	0.001	(0.000)	0.000	0.001	0.001	0.000
General Service Small	(0.620)	5.490	0.045	0.061	0.063	0.045	0.047	0.015
General Service Medium	1.709	(2.164)	0.104	0.099	0.101	0.104	0.134	0.416
General Service Large	4.577	(2.040)	0.028	0.003	0.013	0.028	0.034	0.122
General Service Primary	0.361	(0.085)	0.036	0.050	0.047	0.036	0.047	0.046
General Service Transmission Power	166.129	154.252	0.016	0.000	(0.010)	0.016	0.043	0.028
Public/Non-Profit	1.322	(0.991)	0.001	0.001	0.001	0.001	0.001	0.001
Private Outdoor Lighting	0.257	3.291	0.005	0.005	0.005	0.005	0.004	0.002
Streetlighting Service	(1.654)	(1.892)	0.009	0.012	0.015	0.009	0.012	0.014
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

4. WEST PENN POWER RATE DISTRICT AND CLASS REVENUE REQUIREMENTS

Q. ON WHAT BASIS DID OSBA, LUG AND I&E DEVELOP THEIR PROPOSED WEST PENN POWER RATE DISTRICT AND CLASS REVENUE REQUIREMENTS?

A. All three accepted FirstEnergy's West Penn Power tariff rate revenue requirement shown in the unnumbered table in Section C above.

OSBA witness Ewen states that he moved the West Penn Power classes 75% to cost parity, subject to the following constraints: (1) the minimum rate changes were set to zero to avoid rate reductions, (2) the maximum increase was set at 1.5 times the system increase, (3) for class revenues not captured by classes subject to the second constraint were allocated to the other classes proportionally based on current revenues. This resulted in substantial increases to the R, GSS, GP/TP, PN46, STLT and PSU classes and smaller increases to the GSV, GSM, GSL, PN44 and POL classes.[35]

LUG witness Andrews states that he moved West Penn Power's classes 50% to cost parity, subject to the following constraints: (1) no class received an increase greater than 2.0 times the system average increase and (2) the revenues uncaptured due to the first constraint were allocated to the remaining classes.[36] Specifically, witness Andrews reduced the GSS class by $3,000,000 and increased the R, STLT, GSM, GSL, GP/TP and PP46 classes by $2,000,000, $500,000, $330,000, $59,000 and $12,000.[37]

[35] Ewen Direct, page 13.
[36] Andrews Direct, page 20.
[37] Andrews Direct, page 27.

I&E witness Kubas states that based relative rates of return he increased FirstEnergy's GSS and STLT proposed revenue by $1,813,000 and $1,198,000 and reduced FirstEnergy's proposed GSL. PP44 and POL revenues by $2,100,000, $11,000 and $900,000.[38]

The resulting OSBA, LUG and I&E revenue requirements are compared to each other and FirstEnergy in Table 10 below. Also for comparison purposes Table 10 includes in the two right most columns, revenue requirements that result from uniform 50% movement to cost parity based on FirstEnergy's minimum-size COSS and OCA's non-minimum-size COSS, respectively.

Table 10 – Comparison of Proposed West Penn Power Class Revenue Requirements ($000)

Rate Class	FE PA Proposed Revenue[39]	OSBA Proposed Revenue[40]	LUG Proposed Revenue[41]	I&E Proposed Revenue[42]	OCA Min Sys Revenue[43]	OCA No Min Sys Revenue[44]
Residential	431,811	437,964	436,535	431,811	419,692	391,554
General Service Volunteer	1,077	870	870	1,077	942	1,036
General Service Small	22,066	23,239	25,985	23,879	27,307	18,197
General Service Medium	76,877	72,083	73,001	76,877	75,584	100,927
General Service Large	29,019	25,052	25,192	26,919	28,488	37,907
General Service Primary/ Transmission Power	16,729	18,348	14,285	16,729	22,320	23,374
Primary Power Service - 44	45	37	37	34	119	119
Primary Power Service - 46	4,116	4,594	3,264	4,116	5,167	5,168
Private Outdoor Lighting	5,734	4,685	4,652	4,834	5,227	4,958
Streetlighting Service	9,167	9,627	12,613	10,365	11,597	12,080
Pennsylvania State University	1,299	1,441	1,506	1,299	1,496	2,619
Total	597,940	597,941	597,940	597,940	597,940	597,940

[38] Kubas Direct, page 27.
[39] Exhibit KRP-7R.
[40] Ewen Direct, Table IEc-5.
[41] Andrews Direct, Table 11.
[42] Kubas Direct, page 27.
[43] Exhibit KRP-7R.
[44] Exhibit KRP-8.

Table 11 – Comparison of Proposed West Penn Power Class Revenue Increases ($000)						
Rate Class	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	122,386	128,538	136,309	122,386	110,267	82,129
General Service Volunteer	267	60	(306)	267	132	225
General Service Small	7,479	8,651	24,118	9,292	12,720	3,610
General Service Medium	20,768	15,974	8,455	20,768	19,475	44,818
General Service Large	7,465	3,499	(3,396)	5,365	6,935	16,354
General Service Primary/ Transmission Power	4,981	6,600	5,950	4,981	10,572	11,625
Primary Power Service - 44	11	4	(7)	0	86	86
Primary Power Service - 46	1,239	1,717	1,315	1,239	2,291	2,292
Private Outdoor Lighting	1,429	380	(1,447)	529	923	654
Streetlighting Service	3,124	3,584	12,123	4,322	5,553	6,037
Pennsylvania State University	282	424	527	282	479	1,602
Total	169,431	169,432	183,641	169,431	169,431	169,431

Q. WHAT IS YOUR ASSESSMENT OF THE WEST PENN POWER CLASS REVENUE REQUIREMENTS PROPOSED BY OSBA, LUG AND I&E?

A. The proposed West Penn Power revenue requirements of OSBA, LUG and I&E, as well as those of FirstEnergy, are based on the results of FirstEnergy's minimum-size West Penn Power COSS which does not reflect cost causation. Therefore the purported movements towards cost parity measured by the relative rates of return in Table 12 below are inconsistent with the principle of cost causation and do not represent consistent uniform movement towards parity in cost recovery.

Specifically regarding OSBA, Table 12 shows that OSBA's proposed revenue requirements differ only slightly from FirstEnergy's regarding movement to cost parity. Compared to OCA's non-minimum-size COSS relative rates of return, OSBA's revenue requirements flip the R, GSV, GSS, PP44, PP46 and POL classes from over-recovery to

under recovery, flip no classes from under recovery to over recovery, and move the GP/TP class away from cost parity, and move the STLT and PSU toward cost parity.

Specifically regarding LUG, Table 12 shows that LUG's proposed revenue requirements differ only slightly from FirstEnergy's regarding movement to cost parity. Compared to OCA's non-minimum-size COSS relative rates of return, LUG's revenue requirements flip the R, GSV, GSS, PP44, PP46 and POL classes from over-recovery to under recovery, flip no classes from under recovery to over recovery, move the GP/TP class away from cost parity and move the GSM, GSL, STLT and PSU classes toward cost parity.

Specifically regarding I&E, Table 12 shows that I&E's proposed revenue requirements differ only slightly from FirstEnergy's regarding cost parity. Compared to OCA's non-minimum-size COSS relative rates of return, I&E's revenue requirements flip the R, GSV, GSS, PP44, PP46 and POL classes from over-recovery to under recovery, flip no classes from under recovery to over recovery, move the GP/TP class away from cost parity, and move the GSM, GSL, STLT and PSU classes toward cost parity.

Table 12 – Comparison of Proposed West Penn Power Class Revenue Requirement Movement toward Class Cost Parity (relative rate of return = 1.00)								
Rate Class	Min Sys Current Rates RROR	No Min Sys Current Rates RROR	FE PA Proposed Revenues	OSBA Proposed Revenues	LUG Proposed Revenues	I&E Proposed Revenues	OCA Min Sys Revenues	OCA No Min Sys Revenues
Residential	0.842	2.298	0.729	0.769	0.750	0.729	0.651	0.470
General Service Volunteer	5.796	2.231	0.004	0.003	0.000	0.004	0.003	0.004
General Service Small	(1.518)	2.482	(0.034)	(0.026)	0.067	(0.022)	0.000	(0.059)
General Service Medium	2.466	(1.080)	0.188	0.157	0.100	0.188	0.180	0.343
General Service Large	4.834	(0.713)	0.093	0.068	0.021	0.080	0.090	0.151
General Service Primary/ Transmission Power	2.164	0.999	0.010	0.021	0.015	0.010	0.046	0.053
Primary Power Service - 44	45.043	45.043	0.000	0.000	0.000	0.000	0.001	0.001
Primary Power Service - 46	1.369	1.369	0.002	0.005	0.002	0.002	0.009	0.009
Private Outdoor Lighting	5.293	9.100	0.021	0.014	0.002	0.015	0.018	0.016
Streetlighting Service	(1.858)	(1.948)	(0.016)	(0.013)	0.039	(0.008)	0.000	0.003
Pennsylvania State University	2.118	(2.020)	0.002	0.002	0.003	0.002	0.003	0.010
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

D. I&E'S SCALE BACK PROPOSAL

Q. WHAT IS I&E's SCALE BACK PROPOSAL?

A. As explained above, I&E witness Kubas accepts FirstEnergy's proposed class revenue requirements for the Met-Ed and Penn Power rate districts as doing "a reasonable job of proposing larger percentage increases to classes that have a relative rate of return below 1.00," but recommends "small reallocations of the proposed revenue in the Penelec and West Penn Rate Districts."[45] I&E's Penelec and West Penn targeted adjustments to FirstEnergy's class revenue requirements bring the affected classes closer to cost parity. In the case of the Commission approving revenue requirements that are less than FirstEnergy requests, I&E proposes that (1) a specific amount of the reduction (which he

[45] Kubas, page 25 lines 19-22.

labels "First dollar Relief") be applied to classes with relative rates of return above 1.00 and (2) then apply proportionally the remainder of the reduction to certain classes.[46] The purpose of this scale back methodology is obviously to prioritize reductions in the relative rates of return of classes with relative rates of return above 1.00 and minimize reductions of the relative rates of return of classes with relative rates of return less than 1.00.

Q. WHAT IS YOUR ASSESSMENT OF I&E'S SCALE BACK METHODOLOGY?

A. I&E's proposed scale back methodology should not be accepted and implemented in this proceeding or any other utility ratemaking proceeding. First, it rests on FirstEnergy's minimum-size COSSs, which I've demonstrated are not consistent with the principle of cost causation and therefore cannot provide an accurate and reliable cost recovery metric, viz., relative rate of return. Second, by selectively targeting certain classes for first dollar relief, it is incapable of producing uniform and consistent movement to cost parity across all classes under an approved reduced revenue requirement. Rather, if the Commission approves rate district revenue requirements that are less than those proposed by FirstEnergy, the class revenue requirements and rates should be scaled back proportionally based on OCA's non-minimum-size rate district COSS's and OCA's class revenue requirements that uniformly move class revenue requirements to cost recovery parity.

[46] See I&E Exhibit No. 3, Schedule 7, page 1 line 6 and page 3 line 6 for Met-Ed and Penn Power and page 2 line 7 and page 4 line 7 for Penelec and West Penn.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. However, I reserve the right to supplement this testimony if further information is provided by FirstEnergy or the Intervenors discussed herein.

Met-Ed Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	MS	POL	STLT
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	3.62%	2.37%	21.25%	-1.85%	10.69%	9.82%	8.54%	24.34%	-4.99%	16.33%	0.27%	3.36%
RROR ('COSS Summary'!B9:M9)	1.000	0.655	5.870	(0.510)	2.954	2.713	2.359	6.725	(1.379)	4.511	0.075	0.930
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,157,612	1,642,943	1,201	113,177	199,652	45,483	106,192	21,544	436	426	3,471	23,086
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	360,208	263	25,175	39,349	7,461	21,870	4,084	92	84	789	6,225
Total Revenues	642,308	475,376	709	24,159	74,083	13,904	34,666	9,651	68	201	913	8,579
Net Operating Revenues	176,708	115,168	446	-1,016	34,733	6,443	12,797	5,568	-24	116	124	2,354
ROR	8.19%	7.01%	37.14%	-0.90%	17.40%	14.16%	12.05%	25.84%	-5.56%	27.36%	3.58%	10.20%
RROR	1.000	0.856	4.535	(0.110)	2.124	1.730	1.471	3.155	(0.679)	3.341	0.437	1.245
OCA Adjusted FE Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	176,708	134,557	98	9,269	16,352	3,725	8,697	1,764	36	35	284	1,891
Adjusted Income	176,708	111,372	338	2,270	32,326	6,915	14,606	6,815	(7)	96	153	1,824
Total Revenues	642,308	471,580	601	27,445	71,675	14,376	36,476	10,899	86	180	942	8,049
Target Rate of Return	8.19%	6.78%	28.13%	2.01%	16.19%	15.20%	13.75%	31.63%	-1.55%	22.57%	4.40%	7.90%
Target Relative Rate of Return	0.50	0.828	3.435	0.245	1.977	1.856	1.679	3.862	(0.190)	2.756	0.537	0.965
OCA Adjusted for No Revenue Decrease												
Sum of <0	(7)	0	0	0	0	0	0	0	(7)	0	0	0
Sum of >0	176,715	111,372	338	2,270	32,326	6,915	14,606	6,815	0	96	153	1,824
Income Required	176,708	111,367	338	2,270	32,324	6,915	14,606	6,815	0	96	153	1,824
Total Revenues	642,308	471,576	601	27,445	71,674	14,376	36,475	10,898	92	180	942	8,049
FE PA Proposed Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,157,612	1,642,943	1,201	113,177	199,652	45,483	106,192	21,544	436	426	3,471	23,086
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	360,208	263	25,175	39,349	7,461	21,870	4,084	92	84	789	6,225
Total Revenues	614,988	454,614	690	22,970	71,190	13,366	33,402	9,337	65	195	851	8,308
Net Operating Revenues	149,388	94,406	427	(2,205)	31,841	5,905	11,533	5,253	(28)	111	62	2,083
ROR	6.92%	5.75%	35.54%	-1.95%	15.95%	12.98%	10.86%	24.38%	-6.37%	25.98%	1.78%	9.02%
RROR	1.000	0.830	5.133	(0.281)	2.303	1.875	1.569	3.522	(0.920)	3.753	0.257	1.303
OCA Adjusted FE Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,157,612	1,642,943	1,201	113,177	199,652	45,483	106,192	21,544	436	426	3,471	23,086
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	360,208	263	25,175	39,349	7,461	21,870	4,084	92	84	789	6,225
Total Revenues	614,988	454,361	548	27,094	66,677	13,307	34,218	9,845	87	165	918	7,767
Net Operating Revenues	149,388	94,153	286	1,919	27,328	5,846	12,348	5,762	(6)	81	129	1,542
Target Rate of Return	6.92%	5.73%	23.78%	1.70%	13.69%	12.85%	11.63%	26.74%	-1.31%	19.08%	3.72%	6.68%
Target Relative Rate of Return	0.50	0.828	3.435	0.245	1.977	1.856	1.679	3.862	(0.190)	2.756	0.537	0.965
OCA Adjusted for No Revenue Decrease												
Sum of <0	(6)	0	0	0	0	0	0	0	(6)	0	0	0
Sum of >0	149,394	94,153	286	1,919	27,328	5,846	12,348	5,762	0	81	129	1,542
Income Required	149,388	94,149	286	1,919	27,327	5,846	12,348	5,761	0	81	129	1,542
Total Revenues	614,988	454,358	548	27,094	66,676	13,307	34,217	9,845	92	165	918	7,767

Met-Ed Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	MS	POL	STLT
FE PA ROR/RROR Current Rates - no min sys												
ROR ('COSS Summary'!B8:M8)	3.62%	6.46%	7.31%	16.30%	-2.45%	-5.48%	7.09%	7.42%	-0.71%	0.02%	3.85%	0.98%
RROR ('COSS Summary'!B9:M9)	1.000	1.785	2.020	4.503	(0.677)	(1.515)	1.960	2.051	(0.196)	0.005	1.064	0.271
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,157,612	1,262,314	2,105	38,470	500,224	167,411	115,402	40,084	283	1,045	2,645	27,628
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	287,199	436	10,845	96,951	30,848	23,434	7,901	59	203	630	7,092
Total Revenues	642,308	462,916	738	21,713	83,917	17,895	34,952	10,279	63	221	886	8,727
Net Operating Revenues	176,708	175,718	302	10,868	-13,034	-12,953	11,517	2,378	3	18	256	1,635
ROR	8.19%	13.92%	14.35%	28.25%	-2.61%	-7.74%	9.98%	5.93%	1.20%	1.72%	9.67%	5.92%
RROR	1.000	1.700	1.752	3.450	(0.318)	(0.945)	1.219	0.724	0.147	0.210	1.181	0.722
OCA FE Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	176,708	103,384	172	3,151	40,968	13,711	9,451	3,283	23	86	217	2,263
Adjusted Income	176,708	143,977	260	8,669	6,622	(3,529)	13,987	5,008	9	43	224	1,438
Total Revenues	642,308	431,176	697	19,515	103,573	27,319	37,421	12,908	69	246	854	8,530
Target Rate of Return	8.19%	11.41%	12.37%	22.54%	1.32%	-2.11%	12.12%	12.49%	3.29%	4.12%	8.45%	5.21%
Target Relative Rate of Return	0.50	1.393	1510	2.752	0.162	(0.257)	1.480	1.525	0.402	0.503	1.032	0.636
OCA Recommended Revenue Distribution												
OCA Rate Base	2,077,949	1,215,707	2,028	37,050	481,755	161,230	111,141	38,604	272	1,006	2,547	26,608
Required Income at Uniform Return	144,833	144,021	248	8,908	(10,683)	(10,617)	9,440	1,949	3	15	210	1,340
Adjusted Income Required	4,874	3,971	7	239	183	(97)	386	138	0	1	6	40
Total Revenues	470,474	291,170	443	11,084	97,134	30,751	23,820	8,039	60	204	637	7,132
Target Rate of Return	6.97%	9.71%	10.53%	19.18%	1.13%	-1.79%	10.31%	10.63%	2.80%	3.50%	7.19%	4.43%
Target Relative Rate of Return	0.50	1.393	1510	2.752	0.162	(0.257)	1.480	1.525	0.402	0.503	1.032	0.636
	OCA	Firstenergy										
Rate Base DM-1	6,901,224,103	7,165,798,000	9631%									
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%									
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%									
Rate of Return DM-1	6.97%											
OCA FE Adjusted for No Revenue Decrease												
Sum of <0	(3,529)	0	0	0	0	(3,529)	0	0	0	0	0	0
Sum of >0	180,237	143,977	260	8,669	6,622	0	13,987	5,008	9	43	224	1,438
Income Required	176,708	141,158	255	8,500	6,492	0	13,713	4,910	9	42	219	1,410
Total Revenues	642,308	428,357	691	19,345	103,444	30,848	37,148	12,810	69	245	850	8,502
OCA Recommended Adjusted for No Revenue Decrease												
Sum of <0	(97)	0	0	0	0	(97)	0	0	0	0	0	0
Sum of >0	4,971	3,971	7	239	183	0	386	138	0	1	6	40
Income Required	4,874	3,894	7	234	179	0	378	135	0	1	6	39
Total Revenues	470,474	291,092	443	11,080	97,131	30,848	23,812	8,036	60	204	636	7,131
FE PA Proposed Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,157,612	1,262,314	2,105	38,470	500,224	167,411	115,402	40,084	283	1,045	2,645	27,628
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	287,199	436	10,845	96,951	30,848	23,434	7,901	59	203	630	7,092
Total Revenues	614,988	444,423	714	20,970	79,233	16,631	33,628	9,860	60	211	829	8,429
Net Operating Revenues	149,388	157,224	278	10,125	(17,718)	(14,217)	10,194	1,959	1	8	198	1,337
ROR	6.92%	12.46%	13.18%	26.32%	-3.54%	-8.49%	8.83%	4.89%	0.25%	0.80%	7.49%	4.84%
RROR	1.000	1.799	1.904	3.801	(0.512)	(1.227)	1.276	0.706	0.036	0.116	1.082	0.699
OCA Adjusted FE Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,157,612	1,262,314	2,105	38,470	500,224	167,411	115,402	40,084	283	1,045	2,645	27,628
total expenses and taxes (Alloc-Income'!B67:M67)	465,599	287,199	436	10,845	96,951	30,848	23,434	7,901	59	203	630	7,092
Total Revenues	614,988	408,916	656	18,174	102,549	27,865	35,259	12,134	67	239	819	8,308
Net Operating Revenues	149,388	121,717	220	7,329	5,598	(2,983)	11,825	4,233	8	36	189	1,216
Target Rate of Return	6.92%	9.64%	10.46%	19.05%	1.12%	-1.78%	10.25%	10.56%	2.78%	3.48%	7.15%	4.40%
Target Relative Rate of Return	0.50	1.393	1.510	2.752	0.162	(0.257)	1.480	1.525	0.402	0.503	1.032	0.636
OCA Adjusted for No Revenue Decrease												
Sum of <0	(2,983)	0	0	0	0	(2,983)	0	0	0	0	0	0
Sum of >0	152,372	121,717	220	7,329	5,598	0	11,825	4,233	8	36	189	1,216
Income Required	149,388	119,334	216	7,186	5,488	0	11,593	4,151	8	36	185	1,192
Total Revenues	614,988	406,533	652	18,031	102,440	30,848	35,027	12,051	67	239	816	8,284

Penelec Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	H	POL	STLT
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	4.25%	3.42%	14.23%	-3.06%	11.83%	14.88%	7.33%	14.81%	-8.14%	17.28%	6.59%	-9.50%
RROR ('COSS Summary'!B9:M9)	1.000	0.806	3.352	(0.722)	2.787	3.505	1.727	3.490	(1.917)	4.070	1.552	(2.237)
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,269,068	1,621,525	2,693	161,127	241,581	55,061	84,854	41,142	535	2,272	9,124	49,153
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	311,650	579	32,042	47,436	9,600	16,672	7,129	94	426	2,841	15,462
Total Revenues	629,767	433,934	1,252	27,173	92,562	21,698	25,319	11,840	33	1,054	4,264	10,638
Net Operating Revenues	185,837	122,284	673	-4,869	45,126	12,098	8,647	4,712	-61	629	1,423	-4,825
ROR	8.19%	7.54%	25.00%	-3.02%	18.68%	21.97%	10.19%	11.45%	-11.39%	27.68%	15.60%	-9.82%
RROR	1.000	0.921	3.053	(0.369)	2.281	2.683	1.244	1.398	(1.391)	3.379	1.905	(1.199)
OCA Adjusted FE Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	185,837	132,803	98	9,269	16,352	3,725	8,697	1,764	36	35	284	1,891
Adjusted Income	185,837	119,943	480	1,836	37,465	10,158	9,475	7,564	(20)	472	954	(2,490)
Total Revenues	629,767	431,593	1,059	33,878	84,902	19,758	26,147	14,693	74	897	3,795	12,972
Target Rate of Return	8.19%	7.40%	17.82%	1.14%	15.51%	18.45%	11.17%	18.39%	-3.76%	20.76%	10.45%	-5.07%
Target Relative Rate of Return	0.50	0.903	2.176	0.139	1.894	2.252	1.363	2.245	(0.459)	2.535	1.276	(0.619)
OCA Adjusted for No Revenue Decrease												
Sum of <0	(2,510)	0	0	0	0	0	0	0	(20)	0	0	(2,490)
Sum of >0	188,347	119,943	480	1,836	37,465	10,158	9,475	7,564	0	472	954	0
Income Required	185,837	118,344	474	1,812	36,966	10,022	9,349	7,463	0	466	941	0
Total Revenues	629,767	429,994	1,052	33,854	84,403	19,622	26,020	14,592	94	891	3,782	15,462
FE PA Proposed Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,269,068	1,621,525	2,693	161,127	241,581	55,061	84,854	41,142	535	2,272	9,124	49,153
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	311,650	579	32,042	47,436	9,600	16,672	7,129	94	426	2,841	15,462
Total Revenues	604,555	415,932	1,213	25,934	89,187	21,022	24,462	11,428	32	1,024	4,033	10,288
Net Operating Revenues	160,625	104,282	634	(6,108)	41,751	11,422	7,790	4,299	(63)	598	1,192	(5,174)
ROR	7.08%	6.43%	23.54%	-3.79%	17.28%	20.74%	9.18%	10.45%	-11.76%	26.34%	13.07%	-10.53%
RROR	1.000	0.908	3.326	(0.535)	2.441	2.930	1.297	1.476	(1.661)	3.721	1.846	(1.487)
OCA Adjusted FE Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,269,068	1,621,525	2,693	161,127	241,581	55,061	84,854	41,142	535	2,272	9,124	49,153
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	311,650	579	32,042	47,436	9,600	16,672	7,129	94	426	2,841	15,462
Total Revenues	604,555	415,321	993	33,629	79,819	18,380	24,861	13,667	77	833	3,665	13,310
Net Operating Revenues	160,625	103,671	415	1,587	32,383	8,780	8,190	6,538	(17)	408	824	(2,152)
Target Rate of Return	7.08%	6.39%	15.41%	0.99%	13.40%	15.95%	9.65%	15.89%	-3.25%	17.95%	9.03%	-4.38%
Target Relative Rate of Return	0.50	0.903	2.176	0.139	1.894	2.252	1.363	2.245	(0.459)	2.535	1.276	(0.619)
OCA Adjusted for No Revenue Decrease												
Sum of <0	(2,170)	0	0	0	0	0	0	0	(17)	0	0	(2,152)
Sum of >0	162,794	103,671	415	1,587	32,383	8,780	8,190	6,538	0	408	824	0
Income Required	160,625	102,289	409	1,566	31,951	8,662	8,080	6,451	0	402	813	0
Total Revenues	604,555	413,939	988	33,608	79,388	18,263	24,752	13,579	94	828	3,654	15,462

Penelec Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	BRD	H	POL	STLT
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	4.25%	9.54%	6.18%	6.07%	-1.64%	-3.57%	7.54%	6.51%	5.28%	-1.68%	10.02%	-9.51%
RROR ('COSS Summary'!B9:M9)	1.000	2.248	1.456	1.429	(0.387)	(0.840)	1.775	1.534	1.245	(0.395)	2.360	(2.239)
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,269,068	1,101,897	4,070	66,976	653,096	224,646	84,276	61,786	67	7,737	7,526	56,990
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	225,455	807	16,424	115,673	37,729	16,474	10,684	14	1,332	2,576	16,763
Total Revenues	629,767	419,683	1,290	24,591	103,846	26,349	25,294	12,418	20	1,204	4,220	10,853
Net Operating Revenues	185,837	194,228	483	8,167	-11,827	-11,380	8,820	1,733	7	-128	1,644	-5,910
ROR	8.19%	17.63%	11.86%	12.19%	-1.81%	-5.07%	10.47%	2.81%	10.09%	-1.65%	21.85%	-10.37%
RROR	1.000	2.152	1.448	1.489	(0.221)	(0.619)	1.278	0.343	1.232	(0.201)	2.668	(1.266)
OCA Proposed Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	185,837	90,245	333	5,485	53,489	18,398	6,902	5,060	6	634	616	4,667
Adjusted Income	185,837	146,573	409	6,661	16,394	1,468	9,577	6,412	6	192	1,036	(2,892)
Total Revenues	629,767	372,027	1,216	23,085	132,067	39,197	26,052	17,097	20	1,524	3,612	13,871
Target Rate of Return	8.19%	13.30%	10.06%	9.95%	2.51%	0.65%	11.36%	10.38%	9.19%	2.48%	13.76%	-5.07%
Target Relative Rate of Return	0.50	1.624	1.228	1.214	0.306	0.080	1.388	1.267	1.122	0.303	1.680	(0.620)
OCA Recommended Revenue Distribution												
OCA Rate Base	2,185,290	1,061,213	1,920	64,504	628,983	216,351	81,165	59,504	65	7,451	7,248	54,886
Required Income at Uniform Retrurn	152,315	159,192	396	6,693	(9,694)	(9,328)	7,229	1,421	6	(105)	1,348	(4,844)
Adjusted Income Required	5,126	4,043	11	184	452	40	264	177	0	5	29	(80)
Total Revenues	449,057	229,498	818	16,608	116,125	37,770	16,738	10,861	14	1,337	2,605	16,683
Target Rate of Return	6.97%	11.32%	8.56%	8.46%	2.14%	0.56%	9.67%	8.83%	7.82%	2.11%	11.71%	-4.32%
Target Relative Rate of Return	0.50	1.624	1.228	1.214	0.306	0.080	1.388	1.267	1.122	0.303	1.680	(0.620)
	OCA	Firstenergy										
Rate Base DM-1	6,901,224,103	7,165,798,000	96.31%									
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%									
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%									
Rate of Return DM-1	6.97%											
OCA FE Adjusted for No Revenue Decrease												
Sum of <0	(2,892)	0	0	0	0	0	0	0	0	0	0	(2,892)
Sum of >0	188,728	146,573	409	6,661	16,394	1,468	9,577	6,412	6	192	1,036	0
Income Required	185,837	144,327	403	6,559	16,143	1,445	9,431	6,314	6	189	1,020	0
Total Revenues	629,767	369,781	1,210	22,983	131,816	39,174	25,905	16,998	20	1,521	3,596	16,763
OCA Recommended Adjusted for No Revenue Decrease												
Sum of <0	(80)	0	0	0	0	0	0	0	0	0	0	(80)
Sum of >0	5,206	4,043	11	184	452	40	264	177	0	5	29	0
Income Required	5,126	3,981	11	181	445	40	260	174	0	5	28	0
Total Revenues	449,057	229,436	818	16,605	116,118	37,769	16,734	10,859	14	1,337	2,604	16,763
FE PA Proposed Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,269,068	1,101,897	4,070	66,976	653,096	224,646	84,276	61,786	67	7,737	7,526	56,990
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	225,455	807	16,424	115,673	37,729	16,474	10,684	14	1,332	2,576	16,763
Total Revenues	604,555	403,210	1,246	23,629	99,260	25,174	24,437	11,947	20	1,158	3,994	10,480
Net Operating Revenues	160,625	177,755	439	7,205	(16,413)	(12,555)	7,963	1,262	6	(174)	1,418	(6,282)
ROR	7.08%	16.13%	10.79%	10.76%	-2.51%	-5.59%	9.45%	2.04%	9.15%	-2.25%	18.84%	-11.02%
RROR	1.000	2.279	1.524	1.520	(0.355)	(0.789)	1.335	0.289	1.292	(0.318)	2.662	(1.557)
OCA Adjusted FE Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,269,068	1,101,897	4,070	66,976	653,096	224,646	84,276	61,786	67	7,737	7,526	56,990
total expenses and taxes (Alloc-Income'!B67:M67)	443,931	225,455	807	16,424	115,673	37,729	16,474	10,684	14	1,332	2,576	16,763
Total Revenues	604,555	352,142	1,161	22,182	129,843	38,998	24,752	16,227	19	1,498	3,471	14,263
Net Operating Revenues	160,625	126,687	354	5,758	14,170	1,269	8,278	5,542	5	166	895	(2,499)
Target Rate of Return	7.08%	11.50%	8.69%	8.60%	2.17%	0.56%	9.82%	8.97%	7.95%	2.14%	11.89%	-4.39%
Target Relative Rate of Return	0.50	1.624	1.228	1.214	0.306	0.080	1.388	1.267	1.122	0.303	1.680	(0.620)
OCA Adjusted for No Revenue Decrease												
Sum of <0	(2,499)	0	0	0	0	0	0	0	0	0	0	(2,499)
Sum of >0	163,124	126,687	354	5,758	14,170	1,269	8,278	5,542	5	166	895	0
Income Required	160,625	124,746	348	5,669	13,953	1,249	8,151	5,457	5	163	881	0
Total Revenues	604,555	350,201	1,156	22,093	129,626	38,978	24,625	16,142	19	1,495	3,457	16,763

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OCA Exhibit KRP-5R

Penn Power Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	PNP	POL	STLT
FE PA ROR/RROR Current Rates											
ROR ('COSS Summary'!B8:M8)	2.46%	1.70%	11.51%	-1.53%	4.20%	11.25%	0.89%	408.42%	3.25%	0.63%	-4.07%
RROR ('COSS Summary'!B9:M9)	1.000	0.691	4.682	(0.620)	1.709	4.577	0.361	166.129	1.322	0.257	(1.654)
FE PA Proposed Revenue Distribution - ROR/RROR	644,947										
Rate Base ('COSS Summary'!A6)	644,947	480,076	313	33,093	76,648	16,985	27,002	747	413	2,725	6,945
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	103,160	65	7,326	13,021	2,423	5,436	564	80	654	1,636
Total Revenues	187,186	141,208	143	7,939	19,644	5,649	6,362	3,734	117	847	1,544
Net Operating Revenues	52,821	38,048	78	614	6,623	3,226	925	3,170	37	192	-92
ROR	8.19%	7.93%	24.83%	1.85%	8.64%	18.99%	3.43%	424.19%	9.06%	7.06%	-1.32%
RROR	1.000	0.968	3.032	0.226	1.055	2.319	0.418	51.793	1.106	0.862	(0.162)
OCA Adjusted FE Revenue Distribution											
Required Income ('Alloc-Income'!B38:M38)	52,821	39,318	26	2,710	6,278	1,391	2,211	61	34	223	569
Adjusted Income	52,821	33,239	73	515	8,503	3,879	1,505	5,115	39	140	(186)
Total Revenues	187,186	136,399	138	7,840	21,524	6,302	6,941	5,678	119	794	1,450
Target Rate of Return	8.19%	6.92%	23.27%	1.55%	11.09%	22.84%	5.57%	684.39%	9.51%	5.15%	-2.68%
Target Relative Rate of Return	0.50	0.845	2.841	0.190	1.355	2.789	0.680	83.565	1.161	0.628	(0.327)
OCA Adjusted for No Revenue Decrease											
Sum of <0	(186)	0	0	0	0	0	0	0	0	0	(186)
Sum of >0	53,007	33,239	73	515	8,503	3,879	1,505	5,115	39	140	0
Income Required	52,821	33,122	73	513	8,473	3,866	1,500	5,097	39	140	0
Total Revenues	187,186	136,282	137	7,838	21,494	6,289	6,936	5,661	119	794	1,636
FE PA Proposed Revenue Distribution - Rate Revenues											
Rate Base ('COSS Summary'!A6)	644,947	480,076	313	33,093	76,648	16,985	27,002	747	413	2,725	6,945
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	103,160	65	7,326	13,021	2,423	5,436	564	80	654	1,636
Total Revenues	181,666	137,070	139	7,678	18,990	5,528	6,191	3,644	114	812	1,502
Net Operating Revenues	47,301	33,909	75	352	5,968	3,105	754	3,080	35	157	(134)
ROR	7.33%	7.06%	23.84%	1.07%	7.79%	18.28%	2.79%	412.15%	8.37%	5.78%	-1.94%
RROR	1.000	0.963	3.251	0.145	1.062	2.492	0.381	56.196	1.141	0.788	(0.264)
OCA Adjusted FE Revenue Distribution - Rate Revenues											
Rate Base ('COSS Summary'!A6)	644,947	480,076	313	33,093	76,648	16,985	27,002	747	413	2,725	6,945
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	103,160	65	7,326	13,021	2,423	5,436	564	80	654	1,636
Total Revenues	181,666	132,925	130	7,786	20,636	5,897	6,784	5,144	115	780	1,470
Net Operating Revenues	47,301	29,765	65	461	7,614	3,474	1,348	4,580	35	126	(166)
Target Rate of Return	7.33%	6.20%	20.84%	1.39%	9.93%	20.45%	4.99%	612.87%	8.51%	4.61%	-2.40%
Target Relative Rate of Return	0.50	0.845	2.841	0.190	1.355	2.789	0.680	83.565	1.161	0.628	(0.327)
OCA Adjusted for No Revenue Decrease											
Sum of <0	(166)	0	0	0	0	0	0	0	0	0	(166)
Sum of >0	47,468	29,765	65	461	7,614	3,474	1,348	4,580	35	126	0
Income Required	47,301	29,661	65	459	7,588	3,462	1,343	4,564	35	125	0
Total Revenues	181,666	132,821	130	7,785	20,609	5,885	6,779	5,128	115	779	1,636

Penn Power Rate District	Company	R	GSV	GSS	GSM	GSL	GP	TP	PNP	POL	STLT
FE PA ROR/RROR Current Rates											
ROR ('COSS Summary'!B8:M8)	2.46%	7.21%	5.17%	13.50%	-5.32%	-5.01%	-0.21%	379.22%	-2.44%	8.09%	-4.65%
RROR ('COSS Summary'!B9:M9)	1.000	2.932	2.105	5.490	(2.164)	(2.040)	(0.085)	154.252	(0.991)	3.291	(1.892)
FE PA Proposed Revenue Distribution - ROR/RROR											
Rate Base ('COSS Summary'!A6)	644,947	339,757	431	13,319	192,868	58,700	29,178	803	668	1,695	7,528
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	75,519	88	3,430	35,849	10,638	5,931	577	130	451	1,751
Total Revenues	187,186	136,857	146	7,326	23,242	6,942	6,436	3,736	125	815	1,562
Net Operating Revenues	52,821	61,337	58	3,896	-12,608	-3,696	505	3,158	-5	363	-189
ROR	8.19%	18.05%	13.49%	29.25%	-6.54%	-6.30%	1.73%	393.50%	-0.74%	21.44%	-2.51%
RROR	1.000	2.204	1.647	3.571	(0.798)	(0.769)	0.211	48.047	(0.090)	2.618	(0.306)
OCA Proposed Revenue Distribution											
Required Income ('Alloc-Income'!B38:M38)	52,821	27,826	35	1,091	15,796	4,808	2,390	66	55	139	617
Adjusted Income	52,821	54,705	55	3,540	(9,197)	(2,500)	1,093	5,103	0	298	(275)
Total Revenues	187,186	130,224	143	6,970	26,652	8,138	7,023	5,680	130	749	1,476
Target Rate of Return	8.19%	16.10%	12.71%	26.58%	-4.77%	-4.26%	3.75%	635.76%	0.04%	17.57%	-3.65%
Target Relative Rate of Return	0.50	1.966	1.552	3.245	(0.582)	(0.520)	0.457	77.626	0.005	2.146	(0.446)
OCA Recommended Revenue Distribution											
OCA Rate Base	621,134	327,213	415	12,827	185,747	56,533	28,101	773	643	1,632	7,250
Required Income at Uniform Retrurn	43,293	50,273	48	3,193	(10,334)	(3,029)	414	2,589	(4)	298	(155)
Adjusted Income Required	1,457	1,509	2	98	(254)	(69)	30	141	0	8	(8)
Total Revenues	135,822	77,028	90	3,528	35,596	10,569	5,961	718	130	460	1,743
Target Rate of Return	6.97%	13.70%	10.82%	22.62%	-4.06%	-3.62%	3.19%	541.05%	0.03%	14.96%	-3.11%
Target Relative Rate of Return	0.50	1.966	1.552	3.245	(0.582)	(0.520)	0.457	77.626	0.005	2.146	(0.446)
	OCA	Firstenergy									
Rate Base DM-1	6,901,224,103	7,165,798,000	96.31%								
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%								
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%								
Rate of Return DM-1	6.97%										
OCA FE Adjusted for No Revenue Decrease											
Sum of <0	(11,972)	0	0	0	(9,197)	(2,500)	0	0	0	0	(275)
Sum of >0	64,793	54,705	55	3,540	0	0	1,093	5,103	0	298	0
Income Required	52,821	44,597	45	2,886	0	0	891	4,160	0	243	0
Total Revenues	187,186	120,116	133	6,316	35,849	10,638	6,821	4,737	130	694	1,751
OCA Recommended Adjusted for No Revenue Decrease											
Sum of <0	(330)	0	0	0	(254)	(69)	0	0	0	0	(8)
Sum of >0	1,787	1,509	2	98	0	0	30	141	0	8	0
Income Required	1,457	1,230	1	80	0	0	25	115	0	7	0
Total Revenues	135,822	76,749	89	3,510	35,849	10,638	5,955	692	130	458	1,751
FE PA Proposed Revenue Distribution - Rate Revenues											
Rate Base ('COSS Summary'!A6)	644,947	339,757	431	13,319	192,868	58,700	29,178	803	668	1,695	7,528
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	75,519	88	3,430	35,849	10,638	5,931	577	130	451	1,751
Total Revenues	181,666	133,205	143	7,134	22,184	6,676	6,257	3,646	121	783	1,518
Net Operating Revenues	47,301	57,686	55	3,703	(13,665)	(3,962)	327	3,068	(9)	332	(233)
ROR	7.33%	16.98%	12.68%	27.80%	-7.09%	-6.75%	1.12%	382.27%	-1.29%	19.59%	-3.10%
RROR	1.000	2.315	1.729	3.791	(0.966)	(0.920)	0.153	52.123	(0.176)	2.672	(0.422)
OCA Adjusted FE Revenue Distribution - Rate Revenues											
Rate Base ('COSS Summary'!A6)	644,947	339,757	431	13,319	192,868	58,700	29,178	803	668	1,695	7,528
total expenses and taxes (Alloc-Income'!B67:M67)	134,365	75,519	88	3,430	35,849	10,638	5,931	577	130	451	1,751
Total Revenues	181,666	124,507	137	6,600	27,613	8,400	6,909	5,147	130	718	1,505
Net Operating Revenues	47,301	48,988	49	3,170	(8,236)	(2,238)	979	4,570	0	267	(246)
Target Rate of Return	7.33%	14.42%	11.38%	23.80%	-4.27%	-3.81%	3.35%	569.32%	0.03%	15.74%	-3.27%
Target Relative Rate of Return	0.50	1.966	1.552	3.245	(0.582)	(0.520)	0.457	77.626	0.005	2.146	(0.446)
OCA Adjusted for No Revenue Decrease											
Sum of <0	(10,721)	0	0	0	(8,236)	(2,238)	0	0	0	0	(246)
Sum of >0	58,022	48,988	49	3,170	0	0	979	4,570	0	267	0
Income Required	47,301	39,936	40	2,584	0	0	798	3,725	0	217	0
Total Revenues	181,666	115,456	128	6,014	35,849	10,638	6,728	4,303	130	669	1,751

West Penn Rate District	Company	RS	GSV	GSS	GSM	GSL	GP/TP	PP44	PP46	POL	STLT	PSU
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	2.71%	2.28%	15.72%	-4.12%	6.69%	13.11%	5.87%	122.19%	3.71%	14.36%	-5.04%	4.32%
RROR ('COSS Summary'!B9:M9)	1.000	0.843	5.805	-1.521	2.470	4.841	2.168	45.118	1.370	5.301	-1.861	1.594
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,094,173	1,520,788	2,030	133,474	223,023	66,311	62,657	58	15,938	11,955	53,234	4,705
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	318,625	444	27,307	47,672	14,518	15,162	24	3,805	2,510	11,597	1,056
Total Revenues	614,232	443,691	1,095	22,881	78,849	29,518	17,308	46	4,202	5,957	9,361	1,324
Net Operating Revenues	171,513	125,066	652	-4,426	31,177	15,000	2,146	23	397	3,447	-2,236	268
ROR	8.19%	8.22%	32.10%	-3.32%	13.98%	22.62%	3.42%	39.43%	2.49%	28.83%	-4.20%	5.71%
RROR	1.000	1.004	3.920	(0.405)	1.707	2.762	0.418	4.815	0.304	3.520	(0.513)	0.697
OCA Adjusted FE Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	171,513	124,553	166	10,932	18,266	5,431	5,132	5	1,305	979	4,360	385
Adjusted Income	171,513	114,752	566	(2,849)	31,691	15,862	8,127	109	1,547	3,085	(1,877)	500
Total Revenues	614,232	433,377	1,009	24,458	79,363	30,380	23,290	132	5,352	5,595	9,719	1,555
Target Rate of Return	8.19%	7.55%	27.87%	-2.13%	14.21%	23.92%	12.97%	188.85%	9.71%	25.80%	-3.53%	10.62%
Target Relative Rate of Return	0.50	0.921	3.402	(0.261)	1.735	2.921	1.584	23.059	1.185	3.151	(0.431)	1.297
OCA Adjusted for No Revenue Decrease												
Sum of <0	(4,726)	0	0	(2,849)	0	0	0	0	0	0	(1,877)	0
Sum of >0	176,239	114,752	566	0	31,691	15,862	8,127	109	1,547	3,085	0	500
Income Required	171,513	111,675	550	0	30,842	15,436	7,909	106	1,506	3,002	0	486
Total Revenues	614,232	430,300	994	27,307	78,513	29,955	23,072	129	5,310	5,513	11,597	1,542
FE PA Proposed Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,094,173	1,520,788	2,030	133,474	223,023	66,311	62,657	58	15,938	11,955	53,234	4,705
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	318,625	444	27,307	47,672	14,518	15,162	24	3,805	2,510	11,597	1,056
Total Revenues	597,940	431,811	1,077	22,066	76,877	29,019	16,729	45	4,116	5,734	9,167	1,299
Net Operating Revenues	155,221	113,186	633	(5,241)	29,205	14,500	1,567	21	311	3,224	(2,429)	243
ROR	7.41%	7.44%	31.20%	-3.93%	13.10%	21.87%	2.50%	37.14%	1.95%	26.96%	-4.56%	5.17%
RROR	1.000	1.004	4.209	(0.530)	1.767	2.950	0.337	5.010	0.263	3.638	(0.616)	0.698
OCA Adjusted FE Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,094,173	1,520,788	2,030	133,474	223,023	66,311	62,657	58	15,938	11,955	53,234	4,705
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	318,625	444	27,307	47,672	14,518	15,162	24	3,805	2,510	11,597	1,056
Total Revenues	597,940	422,477	956	24,729	76,353	28,873	22,518	122	5,205	5,302	9,898	1,508
Net Operating Revenues	155,221	103,852	512	(2,578)	28,681	14,355	7,355	98	1,400	2,792	(1,699)	452
Target Rate of Return	7.41%	6.83%	25.22%	-1.93%	12.86%	21.65%	11.74%	170.91%	8.78%	23.35%	-3.19%	9.61%
Target Relative Rate of Return	0.50	0.921	3.402	(0.261)	1.735	2.921	1.584	23.059	1.185	3.151	(0.431)	1.297
OCA Adjusted for No Revenue Decrease												
Sum of <0	(4,277)	0	0	(2,578)	0	0	0	0	0	0	(1,699)	0
Sum of >0	159,498	103,852	512	0	28,681	14,355	7,355	98	1,400	2,792	0	452
Income Required	155,221	101,067	498	0	27,912	13,970	7,158	96	1,363	2,717	0	440
Total Revenues	597,940	419,692	942	27,307	75,584	28,488	22,320	119	5,167	5,227	11,597	1,496

West Penn Rate District	Company	RS	GSV	GSS	GSM	GSL	GP/TP	PP44	PP46	POL	STLT	PSU
FE PA ROR/RROR Current Rates												
ROR ('COSS Summary'!B8:M8)	2.71%	6.23%	6.05%	6.73%	-2.93%	-1.94%	2.71%	122.19%	3.71%	24.68%	-5.29%	-6.03%
RROR ('COSS Summary'!B9:M9)	1.000	2.301	2.234	2.486	-1.082	-0.715	1.000	45.118	1.370	9.114	-1.952	-2.227
FE PA Proposed Revenue Distribution - ROR/RROR												
Rate Base ('COSS Summary'!A6)	2,094,173	1,149,729	3,256	46,677	535,477	190,047	76,318	58	15,938	8,391	56,035	12,246
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	254,576	656	12,325	100,927	35,949	17,865	24	3,805	1,895	12,080	2,619
Total Revenues	614,232	433,296	1,130	20,449	87,538	32,992	17,723	46	4,202	5,857	9,439	1,560
Net Operating Revenues	171,513	178,720	474	8,124	-13,388	-2,957	-142	23	397	3,962	-2,641	-1,059
ROR	8.19%	15.54%	14.56%	17.41%	-2.50%	-1.56%	-0.19%	39.43%	2.49%	47.21%	-4.71%	-8.65%
RROR	1.000	1.898	1.778	2.125	(0.305)	(0.190)	(0.023)	4.815	0.304	5.765	(0.576)	(1.056)
OCA Adjusted FE Revenue Distribution												
Required Income ('Alloc-Income'!B38:M38)	171,513	94,163	267	3,823	43,856	15,565	6,250	5	1,305	687	4,589	1,003
Adjusted Income	171,513	155,417	431	6,664	(1,803)	2,222	6,250	109	1,547	3,476	(2,184)	(615)
Total Revenues	614,232	409,993	1,087	18,988	99,124	38,171	24,115	132	5,352	5,371	9,896	2,004
Target Rate of Return	8.19%	13.52%	13.24%	14.28%	-0.34%	1.17%	8.19%	188.85%	9.71%	41.42%	-3.90%	-5.02%
Target Relative Rate of Return	0.50	1.651	1.617	1.743	(0.041)	0.143	1.000	23.059	1.185	5.057	(0.476)	(0.613)
OCA Recommended Revenue Distribution												
OCA Rate Base	2,016,852	1,107,279	3,136	44,954	515,707	183,030	73,500	55	15,350	8,082	53,966	11,793
Required Income at Uniform Retrurn	140,575	146,482	389	6,659	(10,973)	(2,424)	(117)	19	326	3,247	(2,165)	(868)
Adjusted Income Required	4,731	4,287	12	184	(50)	61	172	3	43	96	(60)	(17)
Total Revenues	447,450	258,862	667	12,508	100,877	36,010	18,038	27	3,847	1,991	12,020	2,602
Target Rate of Return	6.97%	11.50%	11.27%	12.15%	-0.29%	0.99%	6.97%	160.72%	8.26%	35.25%	-3.32%	-4.28%
Target Relative Rate of Return	0.50	1.651	1.617	1.743	(0.041)	0.143	1.000	23.059	1.185	5.057	(0.476)	(0.613)
	OCA	Firstenergy										
Rate Base DM-1	6,901,224,103	7,165,798,000	96.31%									
Net Operating Revenue DM-1	481,015,320	586,879,000	81.96%									
Additional Revenue Requirement DM-1	11,435,297	339,794,000	3.37%									
Rate of Return DM-1	6.97%											
OCA FE Adjusted for No Revenue Decrease												
Sum of <0	(4,602)	0	0	0	(1,803)	0	0	0	0	0	(2,184)	(615)
Sum of >0	176,115	155,417	431	6,664	0	2,222	6,250	109	1,547	3,476	0	0
Income Required	171,513	151,356	420	6,489	0	2,164	6,086	106	1,507	3,385	0	0
Total Revenues	614,232	405,932	1,075	18,814	100,927	38,113	23,952	129	5,311	5,280	12,080	2,619
OCA Recommended Adjusted for No Revenue Decrease												
Sum of <0	(127)	0	0	0	(50)	0	0	0	0	0	(60)	(17)
Sum of >0	4,858	4,287	12	184	0	61	172	3	43	96	0	0
Income Required	4,731	4,175	12	179	0	60	168	3	42	93	0	0
Total Revenues	447,450	258,750	667	12,504	100,927	36,009	18,033	26	3,846	1,989	12,080	2,619
FE PA Proposed Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,094,173	1,149,729	3,256	46,677	535,477	190,047	76,318	58	15,938	8,391	56,035	12,246
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	254,576	656	12,325	100,927	35,949	17,865	24	3,805	1,895	12,080	2,619
Total Revenues	597,940	422,473	1,108	19,882	84,672	32,140	17,108	45	4,116	5,644	9,238	1,515
Net Operating Revenues	155,221	167,898	452	7,557	(16,255)	(3,809)	(758)	21	311	3,749	(2,842)	(1,104)
ROR	7.41%	14.60%	13.89%	16.19%	-3.04%	-2.00%	-0.99%	37.14%	1.95%	44.68%	-5.07%	-9.01%
RROR	1.000	1.970	1.874	2.184	(0.410)	(0.270)	(0.134)	5.010	0.263	6.028	(0.684)	(1.216)
OCA Adjusted FE Revenue Distribution - Rate Revenues												
Rate Base ('COSS Summary'!A6)	2,094,173	1,149,729	3,256	46,677	535,477	190,047	76,318	58	15,938	8,391	56,035	12,246
total expenses and taxes (Alloc-Income'!B67:M67)	442,719	254,576	656	12,325	100,927	35,949	17,865	24	3,805	1,895	12,080	2,619
Total Revenues	597,940	395,230	1,046	18,355	99,295	37,960	23,521	122	5,205	5,041	10,103	2,062
Net Operating Revenues	155,221	140,654	390	6,031	(1,631)	2,011	5,656	98	1,400	3,145	(1,977)	(557)
Target Rate of Return	7.41%	12.23%	11.98%	12.92%	-0.30%	1.06%	7.41%	170.91%	8.78%	37.48%	-3.53%	-4.55%
Target Relative Rate of Return	0.50	1.651	1.617	1.743	(0.041)	0.143	1.000	23.059	1.185	5.057	(0.476)	(0.613)
OCA Adjusted for No Revenue Decrease												
Sum of <0	(4,165)	0	0	0	(1,631)	0	0	0	0	0	(1,977)	(557)
Sum of >0	159,386	140,654	390	6,031	0	2,011	5,656	98	1,400	3,145	0	0
Income Required	155,221	136,979	380	5,873	0	1,958	5,508	96	1,364	3,063	0	0
Total Revenues	597,940	391,554	1,036	18,197	100,927	37,907	23,374	119	5,168	4,958	12,080	2,619

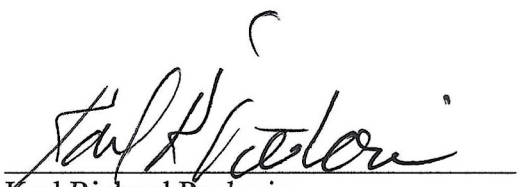
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	
v.	:	Docket No.: R-2024-3047068
FirstEnergy Pennsylvania Electric Company	:	

VERIFICATION

I, Karl Richard Pavlovic, hereby state that the facts above set forth in my Rebuttal Testimony, OCA Statement 4R, are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities).

DATED: July 22, 2024,

Signature: 

Karl Richard Pavlovic

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